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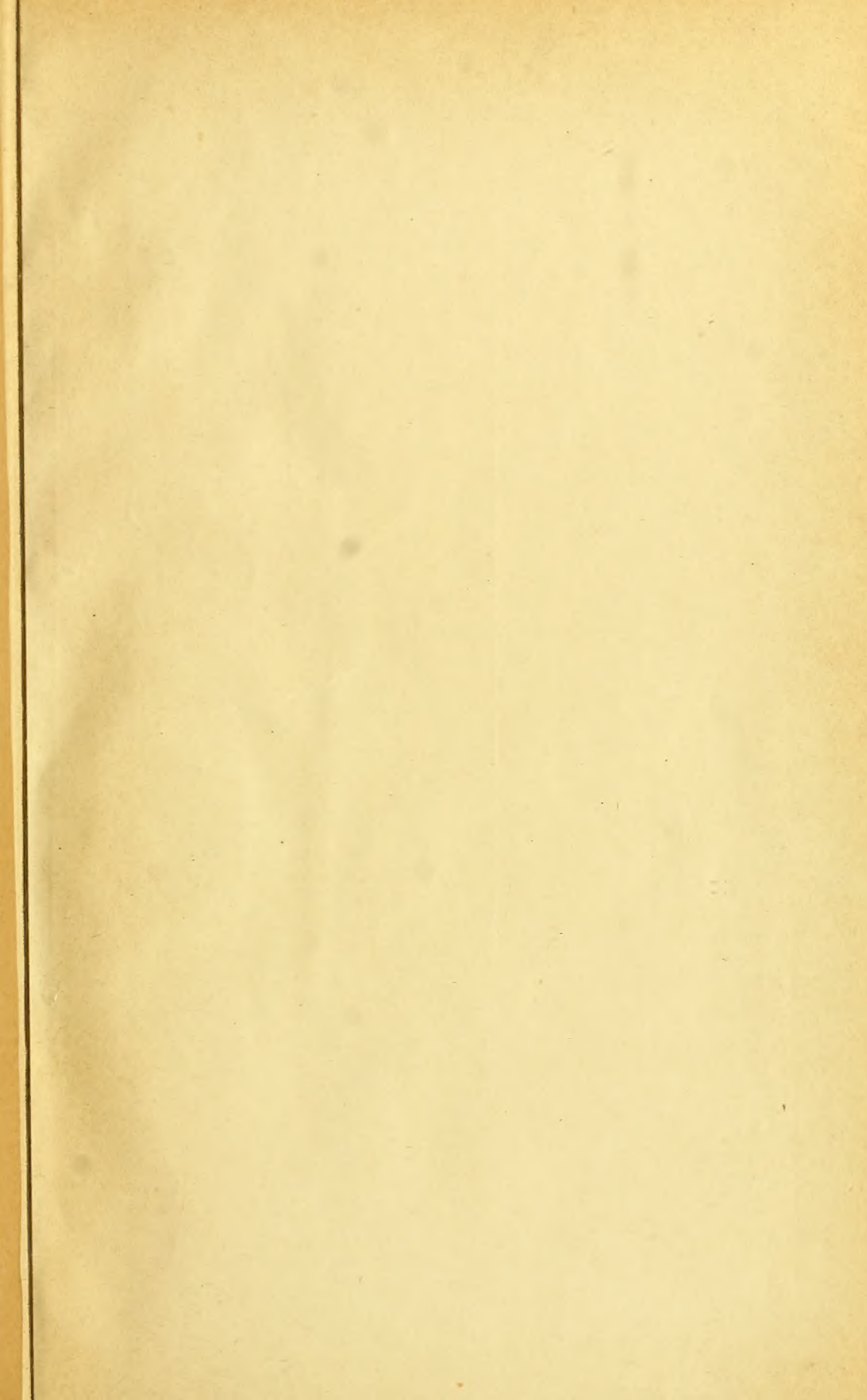
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CAMERA CRAFT

A Photographic Monthly

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70714 Index to Volume XIX

A Child Study (Frontispiece).....	Wm. Westman,	2
Aerial Photography		267
A Home Portrait (Frontispiece).....	F. Morris Steadman	440
Apparatus, Selecting the Proper.....	N. L. Avery	117
Art and Man.....		8
Art, Bernard Shaw on.....		127
A Study (Frontispiece).....	A. W. Rice	196
At Kawaihau Gate (Frontispiece).....	A. M. Clay	344
Balopticon, Fun and Profit with a.....	T. E. Westlake	552
Binding, An Inexpensive Method of.....	A. C. Bevis	265
Binding One's Own Magazines.....	Effie M. Howlett	564
Box Camera, The Merits of the.....	Avery Walter	75
Camera Fiend, How I Became a.....	John F. Fensel	245
Camera in Cairo, With.....	Gustav Eisen	346
Children, Photographing the.....	S. S. Webb	61
Chinese, Photographing the.....	Louis J. Stellman	207
Colored Objects, Photographing.....	H. E. Blackburn	391
Color Photography by Flashlight.....	F. M. Hilliard	21
Commendation and Comment.....	J. G. Boyd	28
Convenient Method for Some Subjects, A.....	V. A. Ulrich	263
Convention, Fifth Annual.....	Le Roy Kellogg	257
Convention, N. W. P. A., Sixteenth Annual.....	C. H. Galbraith	511
Dark-Room Facilities, A Few.....	James Victor Feather	295
Deacon Gray.....	Edgell R. Plaisted	548
Detail, Handling A.....	W. W. Bowers	561
Developing Paper, A Few Notes on.....	G. S. Smallwood	313
Doing Something for Somebody.....	Felix Raymer	59
Dufay Diopochrome Plates, The.....	H. E. Blackburn	215
Enlarger, A Condenserless.....	J. G. Boyd	463
Enlarging Apparatus, An Upright.....	Carl Thayer	401
Exposure, In the Matter of.....	H. L. Maloney	23
Exposure Method, The Importance of an.....	F. M. Steadman	491
Farm, Camera on the, The.....	Henry Dillon	3
Filing System for Exchangers, A.....	A. A. Richardson	71
Fire, An Amateur at a.....	M. Campbell, Jr.	163
Flashlight Pictures, Making.....	H. L. Maloney	149
Flashlight Systems, My Two.....	Thomas Southworth	105
Flowers and Still Life.....	F. Belmont Odell	405
Franz Kohler, Violinist (Frontispiece).....	R. L. Sleeth, Jr.	390
Friction Marks, Preventing.....	David H. L. Wills	404
Gaslight Paper in Hot Weather, Using.....	A. W. French	343
Good Customer, How One Photographer Lost a.....	Walter Jack	517
High-Speed Photography at Night.....	Charles M. Wagner	9
High-Speed Work, Effective.....	Walter L. Beasley	503
Home Portraiture.....	David J. Cook	497
Home Portraiture, Some Suggestions of.....	H. L. Maloney	201
"Home Portraiture" Works, How One.....	R. L. Sleeth, Jr.	395

Indexing Photographic Literature.....	<i>H. Crosby Ferris</i>	53
In Harbor (Frontispiece).....	<i>Wm. H. Phillips</i>	52
Interior, Making a Difficult.....	<i>F. H. Doyle</i>	409
I. W. Taber at Rest.....	"Old Forty"	169
Joy of a Camera, The.....	<i>Viola H. Watson</i>	14
Kinemacolor Motion Pictures.....	<i>Walter Brandon</i>	165
Lantern Slides.....	<i>Burton H. Allbee</i>	441
Lens Angle Determinator, A.....	<i>L. E. Rea</i>	358
Lenses Are Best, What.....	"Old Forty"	214
Lighting, An Article on.....	<i>Felix Raymer</i>	157
Light in Nature, The Distribution of.....	<i>F. Morris Steadman</i>	446
Lumber Camps, Photography in the.....	<i>William Roleff</i>	451
Miss W. (Frontispiece).....	<i>F. Morris Steadman</i>	244
Money with a 2A Brownie, Making.....	<i>Alfred H. Smith</i>	167
"Movie" in Arizona, Taking a.....	<i>Ina L. Cook</i>	513
National Convention, The.....		320
National Convention, The Coming.....		358
Nature, The Beauties of.....	<i>Arthur C. Benson</i>	67
Net Results.....	<i>F. Belmont Odell</i>	101
Our Circle.....	<i>Vercia Louck</i>	124
Pacific Northwest Convention, Twelfth.....	<i>J. T. Bertrand</i>	466
Pinhole Photography.....	<i>Edward B. Johnson, B. S.</i>	457
Photography, A Unit Method in.....	<i>F. Morris Steadman</i>	249
Photography, Correct Methods in.....	<i>F. Morris Steadman</i>	197
Photography, John Henry Essays.....	<i>Francis John Dyer</i>	412
Photography, My First Year in.....	<i>A. K. Sinclair</i>	361
Portfolios, My Treasures, My.....	<i>F. Belmont Odell</i>	65
Portraiture with Flashlight.....	<i>Felix Raymer</i>	541
Shutter Characteristics, Photographic.....	<i>J. G. Boyd</i>	302
Sky Screens, Graded, a Delusion.....	<i>H. D'Arcy Power, M. D.</i>	509
Small Camera, A Plea for the.....	<i>Flora B. Horn</i>	353
Stereo Camera, The Pleasures of a.....	<i>A. T. Hudelson</i>	367
Stereograms on Post Cards.....	<i>C. B. Osborn</i>	317
Stereo Mounting, First Aid to.....	<i>Dr. Ava H. Fenn</i>	417
Stereoscopic Hints Worth Recording, Some.....	<i>James B. Warner</i>	268
Stereoscopic Work, In Behalf of.....	<i>E. J. Ulmer</i>	78
Stereoscopic Worker, A Certain.....	<i>James B. Wagner</i>	220
Stereoscopy of Small Objects.....	<i>H. D'Arcy Power, M. D.</i>	17
Stereo Work, Perspective or Focal Length in.....	<i>George P. Morgan</i>	172
Success, Secrets of.....	<i>Le Roy Kellogg</i>	258
Sunset Effects, Photographing.....	<i>Horace Sykes</i>	309
Sunset, Nye Creek (Frontispiece).....	<i>Horace Sykes</i>	294
System in Photography.....	<i>C. L. Burgoyne</i>	467
Tank Development, Timing.....	<i>Prof. John Fulton</i>	518
The Maid of the Mist (Frontispiece).....	<i>W. H. Porterfield</i>	490
Time Method of Development, The Importance of a.....	<i>F. Morris Steadman</i>	557
Toning of Solio, Etc., Instantaneous.....	<i>David H. L. Wills</i>	260
Tungsten Lamp, Photography by.....	<i>F. L. Peterson</i>	170
Utilities, Two Effective.....	<i>Thomas H. Holmes</i>	519
Waiting for Old Santa Claus (Frontispiece).....	<i>Theron Wendell Kilmer, M. D.</i>	540
War, Photography and.....	<i>Raymond Spiller</i>	120
"When the Frost Is on the Pumpkin" (Frontispiece).....	<i>W. F. Zierath</i>	148
Winter (Frontispiece).....	<i>Carl T. Thayer</i>	100
Zimmerman, Death of Walter.....		366

Editorials

American Salon, the Ninth.....	423
Are We Not Asking Too Much?.....	83
Correction, A	326
Correction, A	572
Contributions from Our I. P. A. Mem- bers, More	33
Cramer on the Coast, Mr. and Mrs.....	474
Crowded Out	132
Doing Something Different.....	473
Early Passes Away, Dr.....	374
Files and Keep Them, Fill Out Your..	33
Finding a Market.....	373
Having a Motive in View.....	523
Hirsch Abroad, Mr.....	228
How We Feel About It.....	83
Inter-Mountain Convention, The Next	132
Kawaiahoa Gate, At.....	374
Let Us Be Tolerant.....	325
London Salon, The.....	276
McGinnis Here, Mr.....	178
National Convention at Philadelphia, The	423
Pacific Coast Branch, A.....	326
Pacific Coast Pictorialists, To the.....	571
Photographers' Association of Califor- nia, The	572
Plea for Better Information, A.....	227
Richardson Again on the Coast, H. L.	178
Richardson Here, H. L.....	524
Smith on the Coast, James H.....	524
Steadman's Articles, Mr.....	424
Tendency to be Avoided, A.....	275
Ward Passes Away, H. Snowden.....	34
What Shall I Charge.....	177
Willis Here, Mr.....	84
Worker Who Succeeds, The.....	131

Paragraphs Photographic

CONTRIBUTED BY OUR READERS

Background, A Flexible.....	30
Barometer, A Pictorial.....	223
Beginner, A Few Tips for the.....	32
Blue Prints on Cloth.....	175
Book, A Valuable.....	570
Borders, Printing Black.....	321
Bottle, Self-Measuring	272
Bright Blue Tones on Bromide Paper..	81
Chemicals, Keeping	80
Cleaning Trays and Bottles.....	80
Coloring Prints	30
Correction, A	174
Correction, A	521
Contrast, To Increase.....	81
County, Fair, At the.....	322
Covers, Troublesome	570

Developer, A Good.....	369
Developer, A Non-Poisonous.....	570
Developer, A Universal.....	174
Developers, Making Up.....	521
Developing in Hot Weather.....	82
Development, Browns by.....	371
Dodging	420
Drying Marks, Removing.....	130
Enlargements Without a Dark-Room..	224
Enlarging, Ruby Lens Cap for.....	370
Enlarging with a Stereopticon.....	82
Enlarging Wrinkle, An.....	128
Filling Bottles of Filtering Solutions..	421
Film Packs, Handling.....	471
Films, Stripping	568
Films, Washing Premo or Other Cut..	323
Fireproof Muslin	522
Fixing Bath, Acetone.....	224
Fixing Bath, A Good Acid.....	369
Focusing Cloth, An Improvised.....	570
Focusing Screen, An Improvised.....	471
Focusing Screen, Improvised.....	568
Glass, Writing on.....	81
Globes Made Safe, Incandescent.....	128
Glossing Bromide Prints.....	223
Ground-Glass Substitute	80
Hypo Remover, A.....	30
Ink for Bottles, Waterproof.....	224
Intensifier, Mercuric	31
Kits, Improvised	274
Knife, A Print Trimming.....	129
Lamp for Use with Electricity, Adapt- ing an Oil-Burning Dark-Room.....	31
Lens Boards, Temporary.....	129
Lens Cap, An Improvised.....	80
Lens Cap, How I Made a.....	271
Lens, Cleaning a.....	82
Line Drawing Effects.....	223
Magnesium Printing, Simple.....	176
Mailing Prints	420
Marks, Removing Drying.....	421
Mark the Plates or Films, To.....	176
Mask, An Adjustable.....	272
Mask, A Handy Post Card.....	324
Mask-Cutting Wrinkle	130
Metol Poisoning and Other Skin Troubles	175
Negatives, Cleaning Old	421
Negatives, Cleaning Old	471
Negatives, Cleaning Waste	225
Negatives, To Clean Old.....	321
Opportunities That Are Overlooked...	273
Orthochromatic Development	273
Paper, Protecting the	422
Paper, The Selection of Suitable.....	323

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CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

An Actual Experience

A FEW days ago I dropped into the photographic department of the greatest news agency in the world.

Believe me, the fellow who showed me around was very courteous, but one of the keenest buyers I have met, only he took me for a visiting photographer. He was proud to show me his well appointed stock room full of

Cyko Paper

"You just told me your department was compelled to buy the lowest priced goods obtainable," I remarked, "yet you are using CYKO." "Yes," he answered, "I have tried all the papers on the market and Cyko is the lowest priced. Every sheet means a good print—no waste, no loss of time. Rejected prints and lost time are worth money to us."

This fellow could tell Cyko in the dark by sensing, and he proved it to me!

W. J. Sammonette
Secretary,

Ansco Company, Binghamton, N. Y.



CHILD STUDY
BY WILLIAM WESTMAN

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

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No. 1

The Camera On The Farm

By Henry L. Dillon, I. P. A. 672



Illustrated by the Author

If there is one place that the camera can be made useful, a place where it can easily be made a source of pleasure, where it can be utilized every day in the year, that place is on the farm. The one reason why the camera is not appreciated as it should be by those who live in the country is that these same people do not realize the wealth of picture material they have about them; the farm scenes, to them, are too commonplace, too much in the nature of "the regular thing." To tell the truth, I had much the same idea when I started to use my camera. I was always on the lookout for something odd or peculiar. I would travel miles to get a picture of a peculiar shaped tree or rock, something the people in the neighborhood mentioned as being of interest. But, when I came to exchange prints through the I. P. A. with my fellow members in the city I found that they were anxious to get the pictures of homely, everyday scenes about the farm, while my pictures that had cost weary miles of trudging did not interest them in the least. Since that time I have learned to appreciate the ones that are taken right at hand. I am beginning to see the mistake of having the figures standing stiff and looking at the camera, and may some day be able to get good composition into my pictures.

But even as they are, they give me a record of life on the farm that affords me great pleasure, and the same pictures are prized very highly by



A FAMILY GROUP

relations and friends. They claim, and I think they are sincere in doing so, that these pictures of mine are of great value to them. Then there are the family reunions and the happy groups of friends and neighbors as they come for a visit, the advent of Cousin Tom from the city, father with his new team, in fact, an endless procession of events that should be recorded for future enjoyment. And how the present members of the family will prize these pictures as the years roll around.

The camera need not be an expensive one and the size does not make much difference. It should be equipped with a shutter that will give fast speeds as well as time exposures. Pictures of live stock or those including animals need to be taken with fairly short exposures as they are restless subjects. All the work should be simplified as much as possible. Perhaps a simple 5x7 camera is a good selection. This can be of the ordinary view kind, costing much less than the more compact, highly finished kind, that seem too nice for such work. These last are nice enough for city people who rarely venture where there is danger of soiled clothing or muddy boots. A standard plate of not too great rapidity will prove the most generally useful. An extra rapid plate will occasionally be preferable, but it is better to have to forego their advantages once in a while than to complicate the work by using plates of two speeds or by trying to hit the correct exposure for a fast plate every time. A plate like the Standard Orthonon will take care of almost any subject except moving ones in a dull light. These plates

THE CAMERA ON THE FARM



FEEDING THE PIGS



MILKING TIME

CAMERA CRAFT



SALTING THE COWS

require a safe developing light, as, being orthochromatic, they are somewhat sensitive to the ruby light. Perhaps one should have some little experience with an ordinary plate of the same speed before taking up the orthochromatic kind. Once confidence is gained in developing, the plates do not present any difficulties other than the necessity of keeping them covered while in the tray, except to examine progress from time to time.

I use Seed's Metol-Hydro powders for developing. They cost more than would a developer that I mixed up myself, were there no waste through chemicals that deteriorate, become of doubtful quality and the like. With the powders there is no waste and no assortment of chemicals to be kept in stock. I take four ounces of rain water or any soft water, strain it through muslin to make sure all sand or foreign matter is removed, and put in a powder. This keeps in good condition for over a month, even in warm weather. One of these four ounce portions will develop six, 5x7 negatives.

With a simple camera, one reliable brand of plates, a developer that is simple and always uniform, all one then has to do is to see that his exposures are fairly correct. Perhaps the best plan is to keep a record of the exposure given each negative. One will then have a good guide for future exposures. Even if a meter, and there are several good ones on the market, be used, it is well to keep a record as a check. With a little proficiency in making exposures, the rest becomes quite simple. Good negatives will be the rule and not the exception. The average worker chops around too much from one plate to another, tries every new developer that comes along, and gives too little thought to his exposures. The result is a lot of negatives of every mixed character, few being such as will produce good prints.

THE CAMERA ON THE FARM

With fairly good negatives, printing becomes a simple matter. One should supply himself with two grades of paper, a hard paper on which to print from the slightly too soft negatives, and a soft paper for the negatives of good contrast. The light used for exposing the paper should be some certain one that is always the same, and the printing frame always placed at the same distance from it. One can then mark the required printing time right on the edge of the negative when the first good print is made, and whenever a duplicate print is wanted one has only to expose to the regular light at the regular distance for the time marked on the edge of the negative. My own negatives are so marked, those requiring hard paper having the printing time followed by the letter H. Examining one it is found to be marked 15H, indicating that it requires hard paper to be printed for fifteen seconds at the regular distance, eight inches, from my lamp, which is a large Rochester burner.

And the constant temptation to try new material should be resisted always. Just stop and think that the man with the newer type of lens is perhaps discarding it for just such a one as you have, that the user of that other brand of paper is most likely changing over to the brand you are using; that the experimenter with that remarkable new developer is discarding it for the one you are employing, and you will see the futility of changing. Much better spend the time and money making a few more good negatives with the material with which you are acquainted. You will learn still more about your standard material while doing so and be a more capable photographer for so doing.



"THAT TASTES GOOD"



WINTER (Eighth American Salon)

By H. OLIVER BODINE

Reproduction from a straight enlargement from a straight negative made with a Bodine Pictorial Lens.

Art and Man

Art in general, in the multiple manifestations of painting, sculpture, and music, has ennobled man by revealing to him the riches of human nature which might otherwise have remained latent. Art has magnified man by magnifying his physical perfections and moral energies, while by depicting him in his glory it has inspired him with the ambition of not remaining inferior to the possibilities of his nature. Art has transformed the savage into the civilized man, and by its continuous action in its nobler manifestations it renders more agreeable, more prolonged, and more intense the spontaneous sensations which nature procures for us. It consoles us by visible dreams for the infirmities of the actual world. It is at once a pleasure, a cordial, an inspiration, and a means of perfection.

The end of art we believe to be disinterested pleasure and not deliberate moralization. The whole question of morality in art is summed up in the words of Saint Paul in his epistle to the Philippians, where he says:

"Finally, brethren, whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, and if there be any praise, think on these things."

High Speed Photography At Night

By Charles M. Wagner



A MULTI-SPEED FLASHLIGHT

NOT to be outdone by modern achievements in other fields, the transmission of mails by aeroplane and such like feats, photography is making advances far beyond the fondest dreams of the most advanced darkroom enthusiast of a few years back. In the front ranks of photographic advancement will be found the perfected between-lens shutter known as the Multi-Speed; and this shutter, in connection with the flashlight attachment designed to be used with it, adds greatly to the picture taking capabilities of the enterprising photographer. This means added profit to the professional and added pleasure and satisfaction to the amateur.

Although heretofore photography by flashlight has produced exceptional results under peculiar and sometimes difficult circumstances and where ordinary apparatus would have been useless without the flash, it has never been possible to photographically arrest motion under other than the most favorable conditions. With the new shutter and attachment mentioned, it is possible to rob darkness of its mystery by obtaining pictures of fast moving objects at night with the same certainty that attends high-speed work in good daylight. Who ever thought or heard of actually taking a picture at night of a fire engine moving at the rate of thirty miles an hour, and getting it sharp and clear instead of as simply a streak or blur across the plate? Yet, as the picture in their advertisement last month shows, Mr. Dietz easily accomplished the feat at Bridgeport, Connecticut, at the time of the New England Convention there. And such an achievement can only be accepted as a starting point for further development along the same line.

CAMERA CRAFT



A BURGLAR CAUGHT



UNDISPUTABLE EVIDENCE

For example, one of the pictures shown herewith represents a supposed burglar opening a dresser drawer, the attachment being so arranged that the opening of the drawer would set off the flash and take the picture of the supposed burglar in the act. The companion picture represents the entrance to a station, the camera, shutter and flashlight attachment so arranged that the photographer could instantly secure the picture of any desired individual as he passed through the swinging doors. Quoting from a recent issue of the *New York Herald*: "It has always been practically impossible to take flashlight pictures at night of objects moving at great speed," said Mr. Dietz last night, "but this between-lens shutter has so much greater speed and illumination than anything ever invented that it will now be possible to use it in detective work. By placing the camera in a hidden place in banks, and connecting it and the flashlight with the electric burglar alarm, not only can the thief be scared away, but his picture will be taken for the police at the same time. The camera, protected by steel casings, cannot be destroyed, and the burglar cannot make his exit quick enough to escape it. We have been taking pictures of the most timid and swift animals at night, the camera being set like a trap, to be sprung by the animal striking the connecting wires."

In order to secure results of this character the speed and efficiency of the shutter must necessarily exceed that of other used exposure mechanisms; and, of course, the same remarkable qualities make the shutter equally desirable for the highest speed work in daylight. The speed ranges from ordinary time and bulb setting up to 1 to 2,000 of a second actual exposure, with absolutely

HIGH SPEED PHOTOGRAPHY AT NIGHT



EVERYBODY JUMPING



INDOOR ATHLETICS

no distortion, even when photographing automobiles at a speed of ninety miles an hour at right angles to the camera. The great light efficiency, the real secret of the wonderful flashlight work, also makes for a surprising amount of definition in daylight work, particularly effective when speed work is undertaken in early morning or late in the day, when an attempt at a picture with any ordinary shutter is almost sure to prove useless. The present season with its short days and weaker light should provide an excellent opportunity for the trying out of this exposure device.

The examples reproduced with this brief article were all made by Mr. Dietz, the inventor of the shutter and the flashlight attachment, at recent gatherings in Boston, Philadelphia and New York. The two showing a man jumping over an ordinary wooden "horse" are introduced to show the difference between a picture obtainable with the Multi-Speed flashlight attachment



WITH MULTI-SPEED ATTACHMENT



FLASH ALONE TOO SLOW

CAMERA CRAFT

and one obtained in the ordinary way, that is, by depending upon the rapidity of the flash to stop motion. Because one is able to catch groups without showing the closing of eyes and the involuntary start that some of the sitters give, photographers are sometimes led to believe that the rapidity of the flash is sufficient to arrest rapid motion. A trial, such as the examples shown of the man jumping, will prove their mistake. The case of the group is entirely different. In the latter the closing of the eyes and the start of the subjects does not take place until a portion of the time of the flash has already elapsed, perhaps not until the full consummation of the flash. There is a perceptible amount of time needed in which to allow the members of the group to realize the flash and the muscles to act. If one still feels that the flash alone is quick enough to catch rapid motion, he has but to ask the maker of his favorite powder concerning the duration of an ordinary flash. One maker has advised me that the duration of the flash, using his regular powder that had but little smoke or concussion, was about one-eighteenth of a second. The highest speed claimed was one-fortieth of a second. Even with this latter doubtful speed, the worker can realize that not very rapid motion could be arrested.

The reader, I trust, will, as the editor has done, kindly pardon me for making this article somewhat of an advertisement for the shutter and attachment mentioned. There is absolutely no way for me to avoid so doing without making the article practically useless. I was simply one of over a thousand photographic enthusiasts who attended Mr. Dietz's lecture and demonstration in New York, Thursday evening, November sixteenth, at the Murray Hill Lyceum. High speed flashlight photography in every conceivable form, including the burglar act depicted in one of the illustrations herewith, was shown and explained to a gathering made up of staff photographers on the leading city newspapers, members of the detective bureau and hundreds of amateur and professional photographers, making up what was no doubt the largest gathering of those interested in photography ever assembled at one meeting in this city. The audience became very enthusiastic as the demonstrations proceeded. It was conclusively proven that the combination of the Multi-Speed shutter and the flashlight attachment, with the great speed illumination and definition of the first coupled with the reliability and efficiency of the latter, placed a wonderful power in the hands of the photographer. Using the combination, the demonstrator satisfactorily handled the most severe tests from jumping dogs to double rope skipping by children drilled for the occasion. Excellent prints from every exposure have been placed at my disposal, but in order to show the reader results that are more in the nature of work that he might be called upon to do, other, but no better results, have been selected to go with this article.

A little matter in the way of description of the attachment will not be amiss, and I can hardly do better than to quote from one of the circulars sent out by the manufacturers. Passing over their cataloguing of the advantages and possibilities of the attachment, the circular reads:

"The attachment is a simple device operating in conjunction with the

HIGH SPEED PHOTOGRAPHY AT NIGHT



AN EXCEPTIONALLY FINE HIGH SPEED FLASHLIGHT

Multi-Speed Shutter and attached to same by means of a screw on the back of the shutter. The exposures are made by electrical contact, the flash powder being ignited slightly ahead of the shutter movement so that the snap-shot is made at the highest efficiency of the flash.

"Two or three small composition trays are provided as containers, all being electrically connected. By dividing the light into two or three separate sources, great distribution of illumination is secured, making it possible to do many kinds of photographic work hitherto impossible with the apparatus at hand.

"There is but one motion in making the picture. Press the shutter release and the exposure is made. The mind of the operator, after the trays are loaded and the connection made, is free to consider the object to be photographed. The camera can be operated from the hand as well as from a stand.

"By means of the patient investigation given to the development of this attachment, and as a result of thousands of experimental exposures, risk has been obviated and the ordinary careful worker will readily see the great improvement we have made in the elimination of danger."

Ambition To Be First

If I were a cobbler, I'd make it my pride
The best of all cobblers to be;

If I were a tinker, no tinker beside
Should mend an old kettle like me.

But whether a tinker, or whether a lord,
Whatever my station may be,

Determined to play second fiddle to none,
I'll climb to the top of the tree;

Let who will be second, the first I'm determined to be.

—THAYER'S "THE WAY TO SUCCEED."

The Joy of a Camera

By Viola H. Watson



To mere mortals who love beauty but lack the power of expressing it, the attainment of a camera gives a thrill of rapture; for, in it they see the means of gratifying their desire to perpetuate the beauty they love to find, and the pursuit never becomes an old story for them. My own 4x5, of good make and in every way satisfactory, was a Christmas present; and, it is not too much to say that I lay awake nights, in those early days, enjoying visions of masterpieces that I should produce, and have even seen them since then,—on the ground-glass. At first I was so fearful of injuring something, or would get so badly “rattled” (I well remember how hard my heart would beat at the critical moment of pressing the bulb), that I made more than the usual number of beginner’s mistakes. But I finally became on speaking terms with my camera and now often photograph children, sometimes houses, and once cats, making the pictures as pot-boilers, and enjoy doing it all. I like it so well that even when babies “act” I can keep my patience,—if I do lose my plates. But when, with my holders loaded, I can take my camera and “prowl,” taking that which seems good to me, of land or sea, that is happiness indeed.



THE SPRING PLOWING

THE JOY OF A CAMERA



AFTER THE BATTLE IS OVER

My attic contains a trunkful of photographic magazines, and what beautiful pictures they contain. Looking at them I am filled with emulative zeal; and, armed with my camera and tripod, I sally forth, sometimes returning with extraordinary results. But, my camera friends, let me assure you that going out into the open for pictures brings its own reward, even should the results fail to reach the walls of a salon. The reward is a royal one in inspiration to body and spirit; and always, in looking over the old prints, you, if no one else, can recall and again enjoy the inspirations and joys that attended on their making.

Photographing for pleasure is expensive, even if one does earn an occasional dollar with his camera, so I am going to pass along some results of my own experiences, results that may help some brother amateur a little, though knowing that the trail is a well blazed one to many. Like many another who has read of their great convenience, I wanted a developing tank, and recently bought one holding six plates, also a washing and hypo box. But though the tank is all that is claimed for it by the manufacturers, and my plates show a marked improvement, I made a great mistake in not getting one that is reversible. With mine, following directions, the plates must be removed and reversed every eight minutes, and that must, of course, be done in the dark-room. The developer that I use is diluted for forty minutes' development, which necessitates only five trips up a particularly steep flight of stairs. The three articles, developing tank, washing and fixing boxes, cost exactly what one good reversible tank would, one holding twelve plates which could be reversed, washed and fixed, the happy owner sitting comfortably reading meanwhile, merely reaching out occasionally to give the tank a gentle jog; a somewhat more enjoyable pastime than climbing up and down a flight of stairs.

CAMERA CRAFT



"I DON'T MIND WINTER"



"WE PLAYED LIFE BOAT"

Another mistake I made was in trying, for a long time, to make all exposures without a tripod, even those longer than one-tenth second. But it is almost impossible to keep the camera from moving unless well braced, and I now take no chances on anything slower than one-twenty-fifth of a second, having learned my lesson in spoiled plates. Another mistake was trying to use my camera on hardwood floors without fixing corks to the tripod points, or at least placing a rug over the floor for the points to engage. The result of the neglect was a tumble that broke the camera. A word of advice at the right time would have saved a bill for repairs.

I once heard an artist say that if he were placed on one of the South Sea Islands with all the paints, brushes and canvases that he could use, he would be happy for life. By the same token, many of us could be content,—given camera, plates and paper,—for a season almost anywhere, there is such a wealth of material if we can but see and appreciate it.

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, and comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows the great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who know neither victory nor defeat.—THEODORE ROOSEVELT.

Stereoscopy of Small Objects

By H. D'Arcy Power, M. D.



Illustrated by the Author

I have used stereoscopy as a regular means of keeping records, chiefly scientific and technical, for many years, and have acquired experiences that, if not new, are at least not in general use. Some of these I propose to describe for the benefit of other workers.

From the standpoint of utility, there is no more valuable use for stereoscopy than in depicting small objects. Flowers, fruits, insects, the form of crystals, etc., are often very imperfectly rendered by the single lens, but are accurately reproduced as stereograms, and their structure may thus be most perfectly recorded for scientific purposes. The same is true of surfaces and textures. The difference between the skin of an apple and that of a quince; between silk, linen and cotton textiles; the surface changes in the skin in disease, can all be rendered with the truth of the natural object. While the stereoscopy of the small is most important from the scientific standpoint, it is also of great interest to the average amateur in that many small objects are either curious or beautiful. This is particularly the case with flowers, insects, small art objects, jewelry, lace, etc.

METHODS OF WORKING: There are certain innate difficulties that have hindered the frequent making of such stereograms. Small objects must be rendered



AN EXAMPLE OF TEXTURE RENDITION



AS RENDERED BY ORDINARY STEREO CAMERA

either in their natural size or within reasonable limits thereof. The ordinary stereoscopic camera is not designed to that end. Take, for example, the "Stereoscopic Brownie." Its closest taking distance is six feet. Let us desire to record the cosmos flower with such a camera. The field of view will take in the whole bush, and the individual flowers are too small to allow of close record. Expensive cameras are made with long extension bellows, but here a new difficulty crops up. As we approach the object to be photographed, the angle at which the two images are projected becomes more and more divergent, so that we soon attain a point at which they are no longer contained on the plate. This can be overcome by bringing the viewing lenses closer together than the regular three inches, but the amount of such approximation is very limited. In brief, the stereoscopic camera that is in general use cannot be made to take small objects



LARGER IMAGE SECURED AS DESCRIBED

STEREOSCOPY OF SMALL OBJECTS

at anything approaching their natural size. Let us now see what are the alternatives.

First: If the object is still life, it may be taken by successive exposures in a long-draw single camera at such distance apart as will permit of both images being secured on the plate. This gives good results.

Secondly: A negative taken in a stereoscopic camera at the usual distance may be enlarged. This sounds simple, but it has its difficulties. Let us take the picture of the cosmos bush, and say that we need a stereogram of the flowers. The actual diameter of a flower is two inches; on the stereogram it appears as one-eighth of an inch. This would demand an enlargement of sixteen diameters to give natural size, which would certainly destroy texture and quality. Let us be content with a magnification of four diameters, which will give a flower one-fourth natural size. Were we to make an enlarged picture of the whole negative, we should need a sheet of bromide paper 12x22 and then we could use only two small pieces, corresponding to the selected flowers, cut out of it. The alternative is to carefully mark a base line on the negative with a line at right angles at each place where the selected area of enlargement lies. These lines are best made, not on the negative itself, but on a piece of glass of corresponding size laid over the same. I used to employ this method, but it is troublesome; weakens also the chief value of a stereogram, its well-defined texture, so that I discarded it in favor of the much simpler plan to be presently described.

Thirdly: Some years ago a method of making stereograms by means of two mirrors placed at an angle in front of the lens was described and manufactured, I think by Mr. Browne, of England. Such an apparatus is now sold as the Ingento stereoscopic attachment. It makes good stereograms, which do not require reversal in printing, and as the angle of the mirrors is adjustable, it may



STEREOSCOPIC HOME SCENES ARE PARTICULARLY SUCCESSFUL

CAMERA CRAFT

be used for small objects. It has an ingenious clamp for attaching the apparatus to the lens, which I have found unsteady in working. When this is improved, as the manufacturers promise, the device will afford valuable means of using the regular camera for stereoscopic work.

Fourthly: I am about to describe the method I am now using with perfect success. It may have been used before, as nothing seems really new in photography, but I know of no description, and I evolved it to meet my own needs. I needed a camera to take stereograms of diseases of the skin. For this purpose I could not satisfactorily use a reduction of less than a third. I possessed a little Brownie stereoscopic camera with a working distance of six feet, where it gave an image of one-sixteenth the actual size. I tried to rectify this by placing a plus 2 diopter supplementary spectacle lens over the camera lenses, thus securing the necessary enlargement at a distance of fifteen inches; but the angle at that distance was too acute and the images were only partly on the film. I then bethought me of adding prisms of sufficient strength to move the images inward, and found I could get the necessary approximation by adding two No. 8 prisms, bases inward. Let me explain to the uninitiated that any optician will supply these lenses in combination. Simply order two 2 diopter plus spectacle lenses ground on No. 8 prisms, directing that they be carefully paired and centered and cut to fit in caps to go over the camera lenses. The cost will be no more than for compound spectacles in general.

Having them thus mounted, place them over the lenses, pull out the bellows to its full extension and approach the camera to a sheet of paper on which is ruled a strong black line, until it is in sharp focus. Before doing this, rule a black horizontal line across the center of the ground glass. Now turn the supplemental lenses with the bases of the prisms inward until the image of the line on the paper coincides with that on the ground glass. Next make a mark on each supplemental lens and extend the same onto the camera lens or flange, so that the lenses can afterwards be immediately adjusted to the same position. In my own case, I have a small slot cut in the cap, which engages a small screw head on the camera lens and saves all trouble of making a visual adjustment. It is necessary that this primary adjustment be carefully done or the images will not coincide, and failing to do so would be difficult to blend in the stereoscope. If the camera is a film camera, a piece of ground glass must be first cut and placed in the position of the film to make the adjustment. With film cameras it will also be necessary to sharply focus some object at full extension and then note on the base board the distance of object from front of camera. The same can be done for minor extensions. In my case, using the Stereoscopic Brownie, I have the following figures, using the supplemental lenses. At the full extension for six feet, the camera must be fifteen inches from the object, the image being one-third natural size. When the bellows is shifted back to the twenty-foot mark, the distance must be eighteen inches and the reduction one-seventh natural size. The depth of focus with open lens is about three inches, but can be greatly increased by stopping down. If the worker desires, the adjustment described can be done by any competent camera maker, but it is a simple matter in practice. With this camera, costing altogether less than twenty

COLOR PHOTOGRAPHY BY FLASHLIGHT

dollars, I am able to do the most varied work, and work of technical excellence, such as is necessary for scientific records. The cosmos flowers, shown herewith, were photographed growing on the bush, they being also shown photographed without the supplemental lenses. The little still life study was arranged to show truthfully the many different textures; it was taken by lamplight with sixty seconds' exposure. It well illustrates the possibilities that lie in a field of stereoscopy that is little invaded by the average amateur.

Stereoscopy should be the favorite method of the home-loving snapshotter, to whom the art side of his hobby is possibly a closed book, but who does want a record of his home, his friends and family. Nothing will give these results like stereoscopy. In this relation, I would draw attention to the interest of evening studies taken by lamplight. The exposures are not necessarily long. The one here given was obtained in forty seconds. The light was one forty-watt tungsten table lamp with two similar lights overhead. It is common in these days to print stereograms on bromide or gaslight paper, but the coldness of black and white takes much from the sense of reality. They should be toned; and here let me conclude with a wrinkle I recently discovered. Tone only one of the halves brown; in the stereoscope it will perfectly combine with its black fellow, yielding a beautiful intermediate tone, with, I believe, a gain in relief.

Color Photography By Flashlight

By F. M. Hilliard

In making good color work on Diptochrome, Autochrome, Krayn, and other screen color plates and films, the one important factor is correct exposure. These plates and films are simply a panchromatic emulsion coated upon a support that has first been given a coating made up of rulings or grains in colors, this last protected by a transparent varnish that withstands the action of the solutions used in developing and reversing the image. To all practical purposes, the user of such plates and film is simply making a negative on a panchromatic emulsion and then reversing it to form a positive. In order to secure complete and uniform reversal of the negative image, it is necessary that the emulsion be quite a thin one, in fact, just capable of giving the desired density without any reserve of density forming deposit. The emulsion being panchromatic and thin, correct exposure becomes imperative. For the same reason, subjects containing wide ranges of light and shade are not as suitable to these plates and films as are subjects in which the contrasts are less trying.

Coming to portraiture, this difficulty of harmonizing vastly different degrees of illumination ceases to be a problem; but another difficulty presents, the long exposures required. We have seen that correct exposure is all important, that fact being generally recognized. That the exposure required for an Autochrome or Diptochrome plate should be, for an indoor exposure, about sixty times that

CAMERA CRAFT.

required for an ordinary fast plate, is also conceded. Therefore, we have but to assure correct exposure and overcome the handicap of long exposure, and portraiture in colors on screen plates becomes a very simple matter. And the two difficulties are met, perfectly, by one and the same photographic expedience, namely, flashlight.

The writer has recently had the pleasure of seeing some of the finest portraits one could wish to see, made on Dufay Diptochrome plates, and a few by the same worker on Autochrome plates. And all were made with the subject posed before a Victor flash cabinet. The exposures were practically instantaneous, of course; the duration of the flash being about one-fortieth of a second. One has but to compare that with the exposure required for such plates, using daylight and an ordinary skylight. Equally gratifying was the absolute control over the exposure. One or two experiments showed exactly how much powder was required for the lens, one working at $f-4.5$, and with the sitter at a given distance from the front of the cabinet. It was found that the Diptochrome plate required about forty-five grains for a subject of average complexion and dress, seated three feet from the front of the cabinet. This determined, any number of exposures could be made, and made at any time, with every assurance that they would be absolutely correct.

One of the leading photographers in New York, J. B. Falk, has, for many months, been reaping a rich harvest from his portraits in colors, all made on one of the screen plates mentioned, and all made by flashlight. Other photographers can do the same, once they will but realize that the flash solves, and solves perfectly, the only difficulty attending the work. With correct exposure merely a matter of measuring out a determined number of grains of powder, and with the inconvenience and risk of long exposures swept away, it becomes a very simple matter; practically, more simple than the making of a regular negative and a print therefrom.

There are several good brands of flashlight powder on the market, the pictures shown us being made with the Victor brand. The Victor Studio Flash Cabinet has the advantage of carrying four tungsten electric lamps that allow the operator to see just what his lighting is going to be before making the flash. The Towles-Schofield apparatus is portable and the largest cartridges are listed as forty grains. The apparatus might permit of larger charges with safety, it being hardly possible that the powder has more lightgiving power than Victor powder. Diptochrome plates can be obtained from George Murphy, Incorporated, New York, or ordered through any dealer who may not have them in stock. Autochrome plates can also be ordered through dealers. A few experiments would convince any enterprising portrait photographer of the advisability of taking up this most profitable line of work. It is a novelty that the public buy with avidity, and good prices are readily obtained. The prices regularly charged by those who have made them under a skylight have ranged from twenty-five to fifty dollars each.

It is the perfection of art to conceal art.—OVID.

In the Matter of Exposure

By H. L. Maloney



With An Illustration by the Author

Correct exposure is a matter of comparison; and, in most cases it is a compromise. Let us take an ordinary landscape, one containing a good quota of sky with, perhaps, some dark shadows under some trees at one side of the foreground. We must realize that the brilliant sky is not merely something white, or rather, blue, to be photographed. It is a source of light in itself, even with the sun directly opposite or behind the camera. The light from the sun shines upon it as upon a huge reflector and is thrown back through the lens, upon that part of the plate that receives the sky image. It is owing to this fact that the sky, ordinarily, is a source of light, that we cannot represent the sky with white paper. Print a landscape of this kind upon thin paper and hold it up between the eye and a brilliant sky and note the improvement that is due to the added brilliancy of the sky portion of the print. Accepting this fact that the sky is more than white paper, that it is a source of light, we can understand that it requires a very short exposure. On the other hand, the shade we mentioned as being in the foreground of our supposed view, may require several seconds' exposure in order to show, in the finished print, the same amount of detail as the eye can see. An exposure upon such a scene must be a compromise between these two extremes. But, fortunately, there are two conditions that tend to minimize the difficulty, and these we will discuss.

Not a few photographers have the idea that the density of the sky portion of a negative is in proportion to the amount of exposure given. This is all wrong. It is true that a very short exposure, such a one as can be given with a focal-plane or Multi Speed shutter, will result, particularly in the case of a leaden or dull sky, in a thin deposit in the sky part of a negative; and, that increasing the exposure time will give a more dense deposit. But such is the case only up to a certain point. After that point is reached there sets in a reflex action known as reversal of the image. For example, a sky of a certain brilliancy may, with a certain plate and stop, give a thin image with an exposure of one two-thousandth of a second. With a longer exposure, say one-fiftieth of a second, the same sky may produce the maximum amount of density obtainable in the negative when developed. Still further increasing the exposure by giving, say one-half second, will have the effect of producing a deposit in the sky portion of the negative a lesser amount of density, showing that reversal, due to overexposure, takes place in the sky portion of that particular subject negative at an exposure of more than one-fiftieth of a sec-

ond. Making a series of exposures we might find that one two-hundred and fiftieth of a second was the right exposure for that sky under the conditions prevailing. The trees in the foreground might require an exposure of two seconds in order to secure full detail in the shadows. Giving the latter exposure might result in having the sky portion of the negative so dense that nothing could be printed though it were the commonly accepted idea correct, that the more exposure the more density, but the reversal of the sky image would result in a thin sky portion, and the sky in the finished print would have much the same appearance as it would were it underexposed with the exposure of one two-thousandth of a second. Consequently, our estimation of a correct exposure is but a compromise between the excessively short exposure required by the sky and the time exposure required for the shadows in the foreground. The correct exposure of the photometers and exposure cards and charts is based on this principle of exposing for the shadows and letting the better illuminated parts take care of themselves.

The other condition that comes to our assistance is the latitude of the average plate or film emulsion. Let us imagine that the power of an emulsion to record light action is represented by a road running up and over a hill. We approach the hill from a level and start to ascend at a grade that gradually increases as we go higher, finally coming to the crest of the hill and passing sharply over. Let us imagine that this road is one hundred yards long. We will next suppose that the scale of gradation which a plate is capable of recording is represented by a flexible sheet that is ten yards long. This we will imagine is lying on the level portion of the road at the foot of the hill, representing no exposure, or an exposure too short to record any scale of gradation. As it is dragged upward on the road, representing some brief exposure, the moment the rear end clears the level portion of the road, an exposure long enough to record the desired scale of gradation is given, yet the scale may be a little too steep. As this flexible sheet is dragged higher, representing longer and longer exposure, the sheet becomes extended, corresponding to slightly longer steps in the gradation of the scale, until the crest is reached and the end passes over, corresponding to the reversal of the image; all very interesting, but the main point has been overlooked, namely, that the flexible blanket can find a position at various points upon the inclined portion of our road, at any one of which points a fairly normal condition of contraction, or correct representation of the scale of gradation, is obtained. These different points represent different exposures, somewhere between one too short to record itself and one long enough to result in reversal of the most brilliant part of the image through overexposure. And these different positions, through which a fair representation of the scale is obtainable, represent the latitude of the plate. It is this latitude of the plate that takes care of what would otherwise be serious errors in most of the exposures we make. Were our road only as long as the blanket, it is evident that there would be no opportunity for any variation of its position without dragging it back on to the level approach, representing no exposure of the shadows, or over the rest of the hill, representing the reversal of the highest lights.

IN THE MATTER OF EXPOSURE



BAPTIZING IN TAR RIVER

By THOMAS D. MOORE

As I pointed out at the start, exposure is a matter of comparison. The shorter steps in the scale of gradation obtainable in a print, as secured by the more brief exposure of the plate, may better compare with the actual scene, may better satisfy the mind, through the eye, than would a scale of gradation in which the steps were longer. But there will be found quite a range of exposures between the shortest allowable and the longest allowable, in which a fairly good representation of the scene results. That is, with a subject having a full scale or range of gradation from brilliant highlights to deep shadow. With a subject having but a short scale, such as a picture being copied, the matter is more serious, and the exposure must be in that portion of the curve, our flexible blanket must be near the center of the hill, in order that the best possible rendition may result in the negative. The scale is a short one, one within the possibility of the plate, and its steps must not be unduly elongated or contracted. A bird's-eye view is much the same. The intervening atmosphere softens any highlights or shadows, making for a short scale of gradation; which, like the print being copied, is a range of gradation well within the capabilities of the plate; and being so, there is no compromise, no need to falsify either end of the scale in order to get within the capabilities of the plate or film.

This understood, we realize that overexposing our brilliant sky will not result in an abnormal amount of density because of the tendency of the emulsion to reversal, and we can realize that there is, up and down our curve or allowable exposure, quite a range in which the available scale of tones will be represented, although such scale will have slightly longer steps at the top of the curve and slightly shorter ones at the bottom. And, as the available scale is shorter than the actual scale of gradation that is present in the view, any or all of the different renditions obtained by varying exposures within the allowable variation, will give renditions that are false to just that extent that the scale of tones in the subject is greater than the scale that the negative can record on our printing paper.

CAMERA CRAFT.

If one has difficulty in giving what is called correct exposure, some sort of an exposure meter should be used; and, if it is used with thought, one will soon be able to dispense with its aid. The worker will learn that a certain class of subjects that he most frequently makes, requires a certain exposure with a certain stop that he most frequently uses. His meter will teach him that other subjects are grouped into some eight other classes, and the relative exposures are soon learned for these other classes. He also learns the necessary increase or decrease of exposure called for by the different stops he may use, as compared with the one with which the exposure is known. The allowance to be made for different light conditions early becomes an easy matter. If the sky is cloudy, the sun overcast, and the weather gloomy, one will have to expose from two to eight times as long as in bright sunlight. From ten a. m. to two p. m. the exposures can be considered as being made under the same conditions as to time of day, doubling them for the winter months. Earlier than ten a. m. and later than two p. m. the exposures will have to be increased according to the time of day, the change being more rapid during the shorter days of winter than in summer.

Assuming an ordinary lens working at f-8, and used at that stop, bright summer weather during the middle of the day, and the requisite exposures will be about as follows for the various classes of subjects: One-fifteenth of a second for average subjects containing near-dark object or shadows, such as scenes in city parks that are not too open. Lighter objects close to the camera, and even portraits in the shade, but in a good, outdoor light, one twenty-fifth of a second. Buildings and street scenes, where there is not too much shadow, may be given one thirty-fifth of a second. The average open landscape, containing but little green foliage or shadows, require only one-fiftieth of a second; very open landscapes, one seventy-fifth of a second. Distant views, beach scenes, and snow scenes, expose one one-hundredth of a second. Give one one-hundred and fiftieth of a second to yachts on the water and like scenes; two-hundredths of a second for moving objects, flying aeroplanes and the like, including all except the darker clouds. Very light clouds will require one four-hundredth of a second. Using stop f-16, the ordinary fast plate or film, one will find that one-tenth of a second is about right for the average subject in a good light. One should keep a record of every exposure made, its time and the stop used, and opposite each such record make a notation, after developing, as to whether exposure was correct, over or under. By comparing these results, one will very quickly learn to avoid making wrong estimations as to the exposure required.

Interiors can be safely given quite long exposures; just how long being much a matter of experience and good judgment, gained by a few trials. I have a friend who rarely makes a mistake, and all he has learned about such exposures was gained by going from room to room of his own home and making a few trial exposures in each, keeping careful record of each. He wasted some two dozen small plates in doing this, but it gave him a knowledge of the subject that makes it quite easy to estimate the exposure for any interior he may now wish to photograph. Interiors are rarely so lighted that they can be

IN THE MATTER OF EXPOSURE

well photographed by daylight. Flashlight will be found much more satisfactory, even when used in connection with daylight. Groups and interiors at night, by flashlight, form an interesting part of the photographic work, and every beginner should acquire some experience in that class of work.

But there is one difference that the worker does not fully realize, as a rule, between daylight and flashlight exposures. In the first the exposure of the plate depends upon the time the shutter is open, the light being a fixed quantity, while in the latter the time of exposure is fixed and the exposure depends upon the light, which last is but another way of saying the amount of powder used. A flashlight exposure is, roughly, one-twentieth of a second. Some powders burn even slower, while some are considerably faster. But only a specially fast mixture burns in one-fortieth of a second, and such a mixture explodes with some little noise when fired. But the point I wish to make is this: The worker



DURATION OF FLASH PERMITS ONLY SLOW MOTION

may use too little powder, secure a soot and whitewash effect, and blame the results upon the flashlight as an illuminant. This is all wrong. It is simply his own fault in not using enough powder. Rightly used, that is, enough used, and the flash will give all the detail and better texture than daylight; that is, better texture under the ordinary condition of interiors and portraits indoors. The amount of powder will depend upon the color of the walls and the distance from the flash to the subject. Using f-16 and working in a room with light walls, with the flash about eight feet from the subject, about thirty grains will be required. Very dark walls will make about double the powder necessary. The picture herewith shows a flashlight taken at a bazaar, the little girl near the center was moving quite rapidly, showing that while slow motion is allowable, quite rapid motion will give a blur during the interval of the flash. Flashlight exposures are best developed in a tank with a weak developer, there being little tendency to overexposure.

Commendation and Comment

By J. G. Boyd



In the November issue of *CAMERA CRAFT*, under the caption, "The Cost of Producing Photographs," the writer, M. F. Jukes, hit one phase of "manufacturing" squarely on the head; but, alas! I fear but few will heed his warning. Perhaps, if one were to emphasize the points discussed, employing different language but leaving the meat of Mr. Jukes' basic argument untouched, it might aid some student in assimilating that subject matter.

Viewed as a cold financial proposition, it requires not much of a stretch of imagination to class all grades of commercial photography as one branch of manufacturing. Wise manufacturers are always keen to ascertain actual costs of manufacture; and, unless a due regard is had for some of the underlying factors of investment expense, it is quite impossible to arrive at an intelligent idea of costs of production. For purposes of sheer simplicity, let us reduce to only two columns all the data appertaining to a determination of costs. The figures in the first column are of paramount importance and should reflect the "overhead expense" mentioned by Mr. Jukes. That column we will christen Fixed Charges.

Our definition thereof will be this: Those charges, expenses, items, or whatever term you prefer, which would continue to pile up obligations against the "plant" even if one were to discontinue "manufacturing" but still retain ownership and custody. Then, obviously, at least the following items must, most assuredly, be given very mature consideration, namely: Interest, depreciation, maintenance, sinking fund, taxes, insurance and any other and all other items which might add to the original cost of the "tools" and "machinery" required in the manufacture of our wares, be they photographs, pianos, furniture or what not.

"Maintenance" and "depreciation" positively are not one and the same. The former, we pay to maintain the property in good operative condition. The latter represents subsequent worth of all or any portion of the equipment. Suppose we pay twenty-five dollars for a camera stand and that an accident to it entails an expense of, say, five dollars for repairs. Then "maintenance" must be charged with that five dollars. Assume that five years later we observe a stand which pleases us far better than that first bought and that we sell it, or turn it in as part payment on the new one, receiving an allowance of fifteen dollars (or any other sum) for it. Obviously, it has depreciated on our hands, in value, to the extent of the difference between our cost and our sale price, and whatever amount that may be is rightly charged to "depreciation."

About the sinking fund. Some claim there should be no such item when the maintenance and depreciation are provided for. Let's see about that. Suppose a given equipment is worth ten thousand dollars. Then further suppose

COMMENDATION AND COMMENT

we run across a friend who has ten thousand dollars seeking investment for a term of years. Assume he has inspected our photographic manufacturing plant and is willing to loan us the ten thousand dollars on, say, ten-year bonds at five per cent interest. Those bonds will quite ordinarily contain a clause stating that, in the case of bonds maturing in ten years, the sum of ten per cent must be set aside each year for the purpose of redeeming those bonds upon their maturity. Dost that fact in any manner divorce "Maintenance" and "Depreciation"? Who is to keep it up? Moreover, what does it signify whether the owner or some other person furnishes the money? The money is there just the same.

The other above, incomplete perhaps, list of "Fixed Charges" is too self-apparent to need explanation.

This writer knows absolutely nothing about the professional photographic game, and only sets down the following figures as explaining, in principle, the points Mr. Jukes so strongly raises. Let us give the following values as illustrative of what must be done:

Interest on everything.....	5 per cent
Depreciation on everything.....	5 per cent
Maintenance on everything.....	5 per cent
Sinking Fund on everything.....	5 per cent
Taxes	2 per cent
Insurance	1 per cent
<hr/>	
Total.....	28 per cent

Assuming (incorrectly) that this schedule comprehends all items in this division, what does it signify? Just this: If our investment be, for illustration, ten thousand dollars, that twenty-eight per cent thereof (under above illustration values) must come from somewhere, in total of twenty-eight hundred dollars each year, for the proud distinction of being the owner of a photographic manufacturing plant, operating or standing idle. Note, please, all the above items from an exceedingly heavy factor in costs, no matter what may have been the individual cost of the complete installation, no matter whether that cost was one hundred dollars or ten thousand dollars.

Not one word has been said as yet about the other column headed, Operating Charges. These items must be carefully considered, and we charge under this head, rent, heat, light, help, chemicals, paper, card stock, etc., etc., and when the two columns are footed, at the end of any desired period of time, such as a day, a week, a month, or a year, exact financial facts will then, and not until then, be apparent.

"Fixed Charges" are the rocks upon which are all too often wrecked all the blissful expectations of desirable dividends. One should employ his lead pencil more and his fallacies less. "Overhead costs" constitute those "ultra-violet rays" of the spectrum of financial investment, and they can never be satisfactorily determined by any "rule of the thumb"; a pencil is the tool. Please doff your cap to Mr. Jukes.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

A FLEXIBLE BACKGROUND: An extra wide, light-colored window shade makes an excellent flexible background. Fitted to a roller, it can be attached to the portable carrier described on page 85 of the February issue, and pulled down, or allowed to roll up for carrying, in a moment.—James Karuza, California.

COLORING PRINTS: In applying water colors to prints on developing paper, green, even with several applications, seems to persist in drying out a disagreeable yellow color. I find that if one will first apply a little lemon juice to the surface of the print, and then put on the yellow color, there will be no change on drying. The remedy is very inexpensive because one has only to buy a lemon and squeeze the juice therefrom into a bottle.—Ben Satran, Kansas.

A HYPO REMOVER: In the October issue, a reader asked for a hypo remover. I am using one that is quite satisfactory and much cheaper than the article bought ready prepared. It is made up as follows:

Water	10 ounces
Bisulphite of soda	$\frac{3}{4}$ ounce
Formaldehyde	2 ounces

This is the stock solution. For use, take one part of the above and three parts of water. Keep stock solution tightly corked, as the formalin gas of the formaldehyde evaporates rapidly. I find that by washing my negatives in four or five changes of water and then placing them in this solution for ten or fifteen minutes, all hypo is removed and the negatives will dry in a very few minutes. They are hardened so that they can be placed in the warming oven of a cook stove without fear of melting the film.—E. D. Davison, New York.

INEXPENSIVE TRAYS: It may benefit other photographers to learn of my method of preparing cheap and effective trays for all purposes. I simply take shallow wooden boxes, such as can be obtained at any grocery store, and line them with a coating of hot paraffine wax. The wax is the common white variety that can be purchased anywhere. It is melted to a hot liquid, poured into the box, turning the latter about so that it will fill all the crevices. Smaller boxes can be immersed directly in the wax. It is best to somewhat warm the

PARAGRAPHS PHOTOGRAPHIC

boxes so that the wax will not chill and set too quickly. Even small paste-board boxes can be made serviceable for temporary use, but their lack of strength is, of course, against them for continued use.—J. A. Volzer, Ohio, I. P. A. 2917.

ANOTHER WAY TO MAKE STRONG PRINTS FROM AN UNDER-TIMED NEGATIVE: Make a Solio proof just dark enough to show all the values as well as possible; and, if the highlights seem too harsh, flash the proof in daylight until they soften a little. Then copy on a fast, ordinary plate and develop in:

Pyro stock solution, one in sixteen.....	2 ounces
Sulphite of soda solution to test 70.....	1/2 ounce
Carbonate of soda solution to test 70.....	8 ounces
Bromide solution, ten per cent.....	1 ounce

Use at a temperature of sixty-eight degrees. Time fully and develop as usual. The negative should have a warm color and the resultant negative should give much better prints than by intensification.—L. C. Bishop, Indiana.

MERCURIC IODIDE INTENSIFIER: A good intensifier which I have used with much satisfaction is made up as follows:

Mercuric chloride.....	3 grams
Water	250 c. c.

Add slowly a ten per cent solution of potassium iodide, until the precipitate first formed is redissolved. About thirty to forty cubic centimeters of the solution will be required; and, when clear, add:

Sodium sulphite (dry).....	25 grams
Water	250 c. c.

This solution keeps well in a dark-colored bottle. This intensifier is of advantage to those who intensify their negatives right after fixing. A good rinsing of a few minutes' duration is all that is needed. After the desired intensity is obtained, rinse the negative thoroughly for a few minutes and treat it with a five per cent solution of sodium sulphite. After twenty minutes' washing, the negative is ready for drying.—Gabriel P. Flores, Ph. D., California, I. P. A. 2185.

ADAPTING AN OIL-BURNING DARK-ROOM LAMP FOR USE WITH ELECTRICITY: A few years ago, before the present-day electric dark-room lamp was placed on the market, the writer, becoming disgusted with the small amount of illumination and the large amount of odor produced by his dark-room lamp, remedied the aforesaid condition of affairs by converting it into an electric lamp. Although this was not at all difficult to do, those persons who have seen it seem to think that it is "quite an idea," therefore I am sending in a description of the manner in which the said change was produced. This may help those persons who are not of a tinkering disposition.

The lamp referred to is a common Kodak dark-room lamp, which retails for a dollar and a half. The material required consists of a sixteen-candle-power electric lamp, a sufficient length of drop-cord, and a plug with which to make connections. The burner is removed from the lamp (it may be neces-

CAMERA CRAFT.

sary to melt the solder by applying heat) and the sixteen-candlepower lamp, to which one end of the drop-cord has been soldered, is put in its place. In soldering the drop-cord to the electric lamp, care should be taken not to scrape off too much of the insulation, otherwise there is danger of a short circuit being formed. After the lamp has been placed in the opening intended for the burner (top down), it may not stay in, in a perfectly upright position. This can be remedied by making three or four turns of the wire around the opening intended for the burner. By this I do not mean that the wire is wrapped tightly, but, on the contrary, the object being to form a sort of spiral around the burner support. The wire is now passed out through one of the openings intended for ventilation purposes, and twice through the handle of the lamp, where it is tightly fastened, by means of a wire, in order to prevent any strain on the cord from being transmitted to the electric bulb. The end of the drop cord is now connected to the plug and the lamp is ready for service.—D. A. Tyrrell, California.

A FEW TIPS FOR THE BEGINNER: Believing that the amateur, as a rule, is interested in knowing how another worker proceeds, I will offer my own method as that of one with but limited time and opportunities, but an unlimited appreciation of the joys of photography. I use plates because I have had better success with them than with film, and the cost is less. The saving in weight, by using film, never appealed very strongly to me for the reason that I do not think the one who is looking for pictures can make very many exposures in a day. I carry only eight plates when out after pictures and often travel around for five or six hours without exposing more than one or two, simply because so many seemingly good subjects would not compose to my satisfaction or because the lighting is not just to my liking at that particular time of day. Many amateurs are tempted to waste plates on views that depend almost entirely for their charm upon the color they contain. I carry a pair of blue eyeglasses, and looking at a view through them gives me a good idea how it will look when reduced to the black and white of a print. One should have the shutter speeds and the diaphragm sizes marked plainly and then expose intelligently. I use a Simplimeter, as advertised in this magazine, and depend upon it entirely. During the last year I have lost only six negatives through wrong exposure, and those were due to my own lack of care. I use the simplest developer of which I have knowledge, namely Rodinal, following the directions on the bottle. I develop by the factorial system, using thirty as the factor for this developer. With the plate in the tray and the developer in a graduate, I pour the latter quickly over the plate and begin to count seconds from the time the plate is covered until the highlights begin to appear, and then multiply the number of elapsed seconds by thirty. With correct exposure the highlights will appear in ten seconds, which, multiplied by thirty, gives five minutes as the time of development. The second plate into the same batch of developer will require about two seconds more for the highlights to come up, making five and one-half minutes development, and so on. I usually develop four, never more than five, in one portion of developer.—J. C. F. Priest, New York.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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San Francisco, California, January, 1912

No. 1

More Contributions From Our I. P. A. Members

As announced last month, while that issue was made up entirely of contributions from members of the International Photographic Association, there was a wealth of matter received that could not be given room. For that reason, this issue, and the next few following ones, will contain much that our good friends intended for the special I. P. A. issue last month. Such articles will be designated by the I. P. A. numbers of the contributors being given after their names at the head of the articles contributed by them. It is most gratifying to find so many of the members willing and able to contribute informative and entertaining matter for our pages, and we hope to make at least one issue each year an I. P. A. number, as good if not better than the last or December one.

Fill Out Your Files and Keep Them

Some of our readers make a business of keeping their files complete and having them bound at the end of the year. But there is a large number who simply leave the numbers lying around, merely avoiding destroying them because they may want to look up something at some future time. It is a very small matter, but how much more advantageous it would be to keep all the issues together with a string around those making up a volume, placing them aside for easy reference, even if one did not wish to go to the expense of binding them. One of our readers writes that he secured a number of ordinary cloth buckles, such as tailors use in trimming a suit, got his better half to supply each with a folded cloth strap about thirty inches long, and used one of these straps on each set of issues making up the volume for a year. Another reader reports that he found amateur paper box making both easy and interesting and he provided himself with a number of stout cases, each open at the side and just large enough to hold six copies. Quite a few of our readers go still further and find that even the most amateurish book-binding is well worth the time expended.

But what I started out to suggest was the desirability of keeping all the issues together and the file complete. We are quite anxious to have our readers do this and we do all possible to make it easy for them. Whenever a subscriber fails to receive his copy or gives one to a friend as a sample, we are only too glad to send a duplicate. We keep on hand a supply of all issues gotten out since the fire of 1906 and can supply nearly all the issues previous to that date. Subscribers of record we will gladly supply with one

CAMERA CRAFT.

or two of the issues for the year just closed, should they be needed to fill out a file, doing so without any charge. Any further issues since the fire will be supplied at the regular price of ten cents each. Issues previous to the fire can generally be supplied, the price depending upon what it has cost us to secure them.

But to return to the matter of keeping the file complete. A full file takes up but little more room than a broken one, and there is no comparison in the matter of value. If you are looking for some particular information that you remember having seen some months back, you are never quite sure, in the case of a broken file, whether your failure to find it is due to a lack of care or thoroughness in the search, or whether it is due to the fact that the desired information was in the number or numbers missing. If you should wish later to give your old copies to some friend just taking up photography, how much more satisfactory it is to be able to give him the numbers complete and in proper rotation than to hand them to him as odd issues of apparently little or no value even in your own eyes. At least get your numbers for the past few years together and order the missing copies to make the file complete as far as it goes. And do it at once while we have a full supply on hand.

H. Snowden Ward Passes Away

Following a sudden seizure which rendered him unconscious for a few hours, Mr. Ward passed away early on the morning of December seventh. His illness was totally unexpected, he did not regain consciousness, and the end came without pain. At the time he was seized with his last brief illness, he was busily engaged in the preparation of a lecture to be delivered the following evening before the Photographic Section of the American Institute, the lecture forming one of the features of his tour in this country as the special commissioner to this country and Canada of the Dickens Fellowship.

In his death, photography has lost a friend, has lost a champion of which it could well be proud, has lost a tireless worker who has done much to advance its claims to recognition as an art, has suffered a sorrow as widespread as is photographic interest throughout the world. His frequent visits to this country, coupled with the fact that he had married a most charming daughter of New England, made him seem, to his host of friends on this side, as belonging to us. His high character, his charming personality, his wide range of talents, endeared him to all. To catalogue his activities, the many high positions he has held in photographic and other societies, would be put to discredit that charming modesty which was always so characteristic of the man.

When Ferrero, the historian, visited this country recently, he was amazed at what he saw. On his return he told his fellow Europeans that, instead of finding America sordid and materialistic, he had found it more idealistic than Europe. Instead of finding a discouraged, selfish, cynical people, he had found that courage, hope and faith in a great future abounded everywhere.—S. S. McCLURE.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The Color Plate In Geology

New scientific uses for color photography—or, more properly, photomicrography—were indicated in a masterly lecture by Professor W. J. Pope, F. R. S., of Cambridge, at the Camera Club, on Thursday of last week. The plate of his choice was the Dufay, of which he gave a concise explanation, and his subjects were chiefly rock crystals and the microscopic specimens which have to be studied in connection with geological analysis. The photographs were taken, he said, with an ordinary photomicrographic camera, and he found it convenient to use as the source of light an ordinary Welsbach mantle. With that source of light and the Dufay plate, he found that the colors of figures seen through the microscope in polarized light were very correctly rendered.

His pictures included the so-called crystal interference figures, which are of very considerable importance in the scientific examination of minerals, and the magnified images of rock sections, by means of which the constituents of rock can be identified. He showed, for example, the interference figures obtained with the mineral calcite occurring in crystals, and the crystalline figure of ordinary tourmaline, with its elliptical and rainbow-like rings, as well as the interference figures of mica and quartz. Some of the results obtained in the examination of crystalline material between the two crossed Nicol prisms were of great interest as well as beauty. Salicin, melted on the microscope slide and then photographed with a one-inch objective, gave a set of diamond-like figures, containing almost every shade of red, violet, and green, and examples were given of labradorite, with its beautiful play of blue, green, and other colors, and dolerite, a dark, crystalline igneous rock.

Professor Pope said that in these color representations it was very important for scientific purposes that the order of the colors and their relative intensity should be

reproduced as they actually were in the section, because color was an important means, though not the only means, at the geologist's command for identifying substances. In the ordinary microscopic examination, the whole of the interference figure that was visible had a diameter of a quarter of an inch. It would be seen at once, therefore, how useful it was, in teaching students, to be able to place before them some actual representation in colors rather than to depend upon the student's examination through a microscope, when as a matter of fact he was frequently unable to see what his tutor expected him to see. Moreover, it was impossible to sketch these subjects in colors, and the screen color plate was an undoubted boon to the instructor in geology.

Professor H. E. Armstrong joined in the discussion, and said that he considered the regularity of screening in such a plate as the Dufay was an advantage in delicate work of this kind, which a starch-grain plate did not possess. Professor Pope, in reply to questions, described the method of cutting sections from a rock, their degree of thickness being ordinarily about one-hundredth of an inch, and then examining them microscopically between crossed Nicol prisms. By that method, a practiced observer could tell what minerals were present in the rock. He had tried the Thames plate in connection with these reproductions with much satisfaction, and his preference for the Dufay was based upon the convenience of having no separation between plate and color screen.—*Amateur Photography*

Color Prints On Paper

During the past month several of the daily papers have been prominently announcing the solution of the problem of printing in natural colors on paper. The source of all this excitement is a new form of Uto paper. The evolution of this paper has been pretty closely followed in these columns, from the time when it was just capable of copying a

CAMERA CRAFT

strong glass transparency after long exposure, to the present form, which will give a copy of such a dense positive as the Autochrome plate by an exposure of about two hours in sunlight. This printing time does not sound very promising for commercial work, but it is a vast improvement on the old form, and if the same rate of progress is kept up we may ultimately hope for a paper that will be more than an interesting curiosity. Also it is to be noted that the true reproduction of delicate tints is in no sense as yet solved. The *British Journal of Photography*, after actual tests, writes as follows:

"The paper is much more rapid than the old 'Uto,' is free from the anethol smell, and is presumably prepared by means of the thiosinamine sensitizer patented by Dr. Smith. Its quality of rendering the scale of gradation in an Autochrome or other screen-plate transparency is also very much greater than that of the old paper. We reprint below the instructions for the use of the paper, from which it will be seen that the time of exposure for a screen-plate transparency has been cut down to about two hours in bright sunshine.

"Our own trials have been limited to one or two exposures in London October light, which, though at times bright sun, was not, we fear, the intense illumination which is required for satisfactory results on the 'Uto-color' paper.

"Exposing from an Autochrome, the color print, though tonally a very good copy of the transparency, was in a much more somber key. With litho color lantern-slides as originals, we obtained very much brighter results, the exposures in this case being about an hour. The paper is evidently a considerable advance on the old Uto, and given a thin, brilliant screen-plate transparency, is capable of giving copies on paper which fairly represent the colors of the original."

Portraiture With Magnesium Ribbon

This has proved, in my experience, one of the most charming branches of photography, and I offer these notes in the hope of making the way smooth for those who care to follow.

The illuminant is the ordinary magnesium ribbon, and about twenty to thirty inches of ribbon of the gauge sold in convenient six-penny tin holders proves ample. It should be divided in three lengths of six to ten

inches, which are roughly plaited, and secured by a twist at either end. An office file makes an efficient holder, the top inch being bent over at a right angle, and to this the plait of ribbon is attached by thread, and ignited at the bottom.

Quite as important as the illuminant is the diffusing screen, and it is sheer waste of time and plates to attempt to work without one. After a series of experiments with various media, I have found that the ideal screen is one of tracing linen of a bluish shade. A child's hoop, thirty inches in diameter, can be had for a couple of pence, and a yard of this linen, thirty inches wide, costs one shilling. This is placed over the hoop, tacked down, and trimmed round. The use of two lights, the one principal, the other auxiliary, has been recommended. This is difficult to manage, and quite unnecessary, provided a large enough reflector is used at the side of the sitter opposite to the illuminant. Such a reflector, six feet in height by four in width, can be easily made by pasting together sheets of smooth-surfaced white paper, sticking on a luggage label at a top corner. One side may be attached to the wall or pinned to a curtain, and by means of a cord passed through the eyelet of this label the reflector may be guyed to any angle required.

The position of the light will vary according to each worker's ideas and aims, but it will simplify matters to mention that a very pleasant lighting is got by placing the ribbon four feet to the side of, and eight feet in front of the sitter, and at a height of seven or eight feet. A pair of steps can be used as a support; and a sheet of cardboard bent slightly concave forms an efficient reflector. It is as well to place a saucer below the ribbon to prevent damage in the event of ignited pieces dropping. The diffusing screen is placed about six inches from the ribbon.

Before making the first exposure, it is advisable to extinguish the room lights; and, with the subject in position, to burn six inches in order to judge the effect, then making any desired alterations in the position of the light, of the reflector, or in the pose. The lights of the room can then be relit and remain lighted while the actual exposure is being made.

A very quaint effect is obtained by what may be called "footlight lighting." In this case the illuminant is placed on the floor at

A PHOTOGRAPHIC DIGEST

a distance of from six to nine feet in front of the sitter, the diffusing screen being again used, a sheet of cardboard behind the light preventing the direct rays from reaching the lens. The faint smoke which attends the combustion of magnesium ribbon precludes its use in this position, and a flash powder must be employed. The Agfa powder will be found excellent, and it is practically smokeless. This powder burns off in about one-fortieth of a second, and the sitter may be talking or laughing at the time of exposure. The handy little Agfa flash-lamp is the best apparatus to use with the Agfa powder.

Focusing is made easy if a taper is held by the sitter; but in a well-lit room this should not be necessary. All available light should be turned on, and when everything is in readiness the dark slide is drawn and the lens-cap removed or shutter opened just before firing.

It is presupposed that an aperture of about f-8 and the fastest plates are used. For development, metolquinol, very dilute, can be recommended.

Magnesium ribbon can also be employed for other variations in portraiture, such as the making of silhouettes, while, provided the sitters remain quite still, excellent domestic interiors and fireside pictures can be secured with this form of lighting.

For silhouettes all that is necessary is a white sheet stretched over an open doorway. The sitter is then posed in profile in front of the sheet inside the room and carefully focused, the camera being also inside the room. All lights in the room are then turned out, and the lens uncapped. A strip of magnesium ribbon, say six inches, is then burned outside the room, on the other side of the sheet, and the lens capped. A slow plate can be used for silhouettes, and it should be backed. The resulting negative should show the figure in profile in practically clear glass, while the background should be quite dense. —Douglas Holmes in *Amateur Photographer*.

Pumice Powder

I have not seen any reference to "pumice powder," writes T. T. W. Sands, in *Photography and Focus*, a light greyish powder which can be obtained from any chemist who keeps a varied stock, and which I find very useful in many ways. For instance, if a neg-

ative can be improved by the application of a little work with the black lead pencil, the pumice powder will give the gelatine surface just the tooth that is necessary. A little of the powder, which may be kept for the purpose in a muslin bag, is dusted onto the part to which the pencil is to be applied, and then, with the tip of the finger, the powder is gently ground against the gelatine with a circular motion until the surface is roughened sufficiently, and the powder may then be dusted off. Another use to which it can be put is to give a print a fine matt surface instead of a glossy one. This can be done even after the print is mounted, by dusting on the powder and then gently grinding it in the way just mentioned. The pumice powder can be applied to any glossy print with a gelatine surface, bromide, gaslight, printing-out paper, or even to a carbon print. It is very effective with prints on semi-matt or "carbon" surface papers, and gives quite a distinctive character of matt surface to the prints treated with it. If this treatment is applied to a print that has got soiled, it will be found that the powder incidentally removes the dirt, and leaves it with a clean, fresh appearance. A little of the powder may be intimately mixed with powdered black lead, and then applied, with a stump or with a little pad of cotton wool, to a mounted bromide enlargement, to tone down parts that are too light. A great improvement can often be carried out in this way, shading down parts more or less by the use of mixtures with different proportions of the pumice and black lead. If the shading is carried over any parts where it is not wanted, it may be removed in a moment by using a pointed piece of india-rubber. I think pumice powder one of the most useful things an amateur can have on his shelves, and am surprised not to see it referred to more often.

Chiffon In Enlarging

It is a singular thing, but one of which every more or less advanced worker realizes the truth, that by taking a subject on a small plate and then enlarging it up considerably, the final result may be too sharp to please even those to whom fuzzy pictures are repugnant. The enlargement seems to have hard, cutting lines which were not to be seen in a contact print from the small negative, and the verdict of the critical photographer

CAMERA CRAFT

upon the result of his labors is very often by no means a very favorable one.

It is not only that the definition seems too biting, but the lines get a coarseness that is unpleasant. Every one who has made many portrait enlargements has encountered this trouble. The sitter may have hair as fine as silk; it may look fine in the little picture; but when an enlargement has been made, although the scale of the enlargement is nothing near life size, individual hairs are shown as coarse as string, and the more critically the picture is focused, the coarser does the hair appear.

There are several methods of avoiding this result. One of the most common is to use a very rough paper on which to make the enlargement. In the opinion of the writer, this remedy is worse than the disease. The coarseness of some of the roughest bromide papers is very objectionable at times, and even if it is so arranged as not to be very noticeable, it limits its use very much. If an enlargement on such paper is hung up so that the light from the window strikes it at all obliquely, more light falling on it from one side than from the other, in fact anywhere except immediately facing the light, the irregularities of the surface of the paper are more in evidence than the picture itself.

Almost every photographic exhibition offers examples of this unfortunate use of a paper with a very rough surface.

The use of bolting silk was the first expedient to get over the trouble entirely, and many a negative that used by itself would not give an enlargement that was in any way soft and harmonious has been made to do so by the simple expedient of putting between the lens of the enlarger and the bromide paper itself a piece of this fabric. It has the advantage of allowing the degree of softening to be controlled; the further the silk is from the surface of the bromide paper within limits the greater will be the softening. Bolting silk, however, is open to the objection that, when only a moderate degree of softening of the definition is required, it is apt to leave traces of its use in the form of a fine pattern or network on some parts at least of the enlargement; while the grain that it imparts is rather mechanical and regular. So that it would seem that something more is to be desired.

That something is to be found in the ma-

terial known as chiffon, which, if put over the lens of the enlarger during the exposure, will be found to soften down both the definition and the contrasts of the enlargement in a very effective manner. It has the merit of being a very cheap device also. Bolting silk is itself a costly fabric, and a piece at least as large as the enlargement itself is necessary, whereas the piece of chiffon need not be very much larger than the lens itself, and the material is quite low priced.

There is little that need be said of the method of using it. The exposure which is required with the chiffon is a little longer than is necessary without it; twenty-five per cent increase in the time may be taken as being about the mark; but this will be found to differ somewhat with different negatives, some apparently not requiring any increased exposure at all.

The chiffon will be found to exercise a two-fold action. In the first place it modifies the definition. Without making the picture disagreeably blurred, it takes the extreme edge off the lines which, without it, would be found to come too hard.

When an enlargement, say 15x12, made with it from a perfectly sharp negative is hung upon the wall and looked at in the way a picture of that size would ordinarily be looked at, it will not be perceptibly blurred at all. Probably if it were reduced down again to the size of the original it would not seem to have lost in definition by the double process.

But, in addition to this action, the chiffon scatters the light somewhat, so that those parts of the bromide picture which receive the most light from the enlarger do not get quite so much as they would do were no chiffon interposed, while those parts which would receive the least light get some of it cut off by the chiffon, it is true, but also get some scattered onto them by it from the brighter parts. The net result is that the contrasts of the enlargement are less harsh than they would be. As a straightforward enlargement always has more contrast than a contact print from the same negative, anything which tends to soften the contrasts in enlarging is likely to be serviceable often; and there is no doubt that in chiffon, used as described, the enlarger has a very valuable, if very simple, device for the purpose.—Cyril D. Morse in *Photography and Focus*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

A Symmetrical Lens

Symmetrical, as one of the designations applied to any certain lens, does not mean that the image produced differs in any way from the image produced by any other type of lens, as is the case when a lens is described as rectilinear, achromatic, anastigmat, and the like. It means simply that the lens, a doublet, a lens made up of two combinations, one in one end of the tube and the other in the other, have these two combinations of the same construction and the same focal length, and either of these combinations can be used alone as a single lens of about double the focal length of the complete lens. This gives the user the use of two focal lengths in one lens. Other lenses, the combinations of which can be used separately, are not symmetrical and give the user the use of three focal lengths. Dallmeyer's Stigmatism being a case in point with the front combination one and one-half and the back combination two times the focal length of the complete lens. Thus, with the No. 5 one has three lenses, one of nine, one of thirteen and one-half, and one of eighteen inches focus.

Measuring Light

A correspondent writes to say that "About Learning How" in this department in a recent issue interested him; but, while he was told how to do this and that, I failed to tell how to measure the light. This correspondent signed his letter "Reader," without giving his name. I would like to say that those writing should always give their name and address, even if they do not want their names used, for the reason that all unsigned letters immediately go into the waste paper basket, as this one did. This is the first such letter that has been given attention for several years; in fact, this paragraph is not in the nature of attention to the unsigned letter, it is merely a paragraph using such a letter as a peg on which to hang a few words concerning the measuring of light. It, the measur-

ing of the light, is the simplest matter imaginable. There are a number of exposure meters on the market that do it in a most simple and effective manner, and Mr. Steadman's method embraces a very simple plan for using strips of ordinary Solio paper for the purpose. An effective plan is that followed by a local amateur, a combination of Mr. Steadman's system and a simple exposure table such as the annuals publish each year. He has memorized a small portion of such a table, the part showing the correct exposure for various subjects at noon in midsummer with bright sun. He has found that at that time Solio paper would show a faint tint, a tint just visible, in one-fourth second. At any other time a visible tint obtained in less than one second he called one-half second, and a tint secured in a second or longer is easily timed. He made himself a little envelope out of black paper and in it placed a number of strips of Solio paper, sealing it up. At the corner at one end he cut a slit just large enough to allow one of the strips to be joggled out with a little shaking. The first trip on a street car he asked the conductor to punch this envelope at that corner. This gave him a small hole with an irregular outline, through both sides. When he wants to measure the light he joggles the end of a strip out of the hole a little ways, holding his thumb over the punch mark meanwhile, and then, turning the hole to the light, removes his thumb and counts seconds until he thinks there is enough discoloration of the Solio beneath to give a just visible image of the punch mark. Then the strip is pulled out a little ways and the image of the hole looked for, usually just visible. If too pronounced, another trial is made, cutting the time in half. If no image, the time is doubled. If he finds it takes four seconds he knows that the exposure is just sixteen times as long as the exposure called for in his table for bright sunlight at noon in midsummer, when the light is equal to one-

CAMERA CRAFT

fourth second tinting time. Of course, this only gives one man's way of going about it. A better way would be to get Mr. Steadman's little book and apply his entire system. The gentleman whose plan we describe adopted the method simply because he was well grounded in the particular exposure table he uses, but found the table alone not fully satisfactory without some method of determining the actual strength of the light. Such tables are generally made up on the suppo-

sition that the light is always the same at certain times, under certain conditions of the atmosphere. In that they are quite right, but one is not always sure that the conditions have been rightly judged, and the variations for the different hours of the day and months of the year make such tables rather extensive. A simple means of measuring the light such as I have described makes for more exactness and cuts down the table to the one specific hour and month.

OUR BOOK SHELVES

"The British Museum, Its History and Treasures"

This volume, the work of Henry C. Shelley, is a handsome piece of printing and binding, three hundred and fifty-five pages, finely illustrated and embellished. It is the first attempt to combine within the scope of a single volume an ordered



history of the museum and a conspectus of its contents. Instead of attempting an exhaustive treatment, manifestly impossi-

ble within the compass of a single volume, the author has aimed to give the reader a point of view, adapted either for a visit to the museum or home reading. As a record of the growth of civilization, the author's survey of this storehouse of historical treasures is of absorbing interest and educational value. In it one finds recorded the advancement of the arts from the earliest times, finds a survey of such growth and advancement as could be obtained in no other way. Published by L. C. Page & Company, Boston.

"British Journal Almanac, 1912"

Ever welcome, this annual epitome of photographic progress is again ready for delivery by enterprising dealers and the American agents, George Murphy, Incorporated, 59 East Ninth street, New York. The paper cover edition is fifty cents, postage twenty-seven cents; cloth covers, one dollar, postage thirty-seven cents. The volume contains over fourteen hundred pages, much, of course, being advertising, but none the less interesting because of the complete survey which those pages give of photographic material. In addition to the usual matter, the book has been increased in value by the addition of two exhaustive articles, one on home portraiture and the other on lantern slide work.

"American Annual of Photography, 1912"

The new edition of this ever welcome annual is now on the counters of all the pro-

OUR BOOK SHELVES

gressive dealers and is being rapidly bought up by those interested in good pictures by, and good articles on, photography. The book contains thirty-two plates in colors, over two hundred fine illustrations, and more than fifty interesting papers. There is also a formulation containing a typical collection of formulas and tables, the result of yearly improvement of this most important feature. A list of photographic societies and a complete index makes the volume a most valuable one. George Murphy, Incorporated, 59 East Ninth street, New York, are sales agents. Prices are seventy-five and one dollar and twenty-five cents, respectively, for paper and cloth bindings. The postage on the first is fifteen cents, on the latter twenty cents.

"The 'Welcome' Photographic Exposure Record and Diary, 1912"

Whosoever desires, in the least possible space of time, to acquire a working familiarity with the principles and practice of modern photography may be confidently recommended to this little volume. The "Wellcome" Exposure Record is packed as full of photographic wisdom as an egg is full of meat, and its directions and observations on such matters as exposure, development, intensification and all the other fascinating processes which go to the making of pictures, are so simple and concise that no one need go astray.

Although simple, it is encyclopædic, and by no means confines its attention or attempts to pin the reader's faith to one plate or to one method. On the contrary, brief and explicit instructions and explanations are given with regard to such diverse topics as factorial and time development, machine, tank or stand development, the oil pigment process, contact printing by artificial light, color photography, development in warm weather and in tropical countries, printing and toning, printing-out paper, color effects by staining, the actinic value of light in various latitudes, interiors, still-life studies and portraiture. More than this, figures and factors, based on every case upon actual experiment, have been worked out for all the principal films and plates on the market and reliable data collected in a most convenient form. By this means, and with the aid of the excellent "Wellcome" Exposure Calculator attached to the cover, it is possible to secure correct exposures under all circumstances, by a single turn of the disc.

Plenty of space is left for diary pages and exposure notes, and the book is provided with pencil and clasp, so that it does double duty as a pocket note book and work of reference, and is equally useful in the dark room and the field. Three separate editions are published, specially adapted for the Northern Hemisphere and Tropics, the Southern Hemisphere and Tropics and the United States. When purchasing care should be taken to specify which edition is required. The "Wellcome" Exposure Record may be obtained from all photographic dealers and book sellers. Price in the United States, fifty cents.

Two New Books

We have just received a copy of the "Photographic Annual, 1911-12," and "Photographing Flowers and Trees and Decorative Photography." The first is the latest edition of that popular annual, originally the "Figures, Facts and Formulas of Photography," which last is incorporated with the present volume. It contains, in addition to the usual complete collection of photographic information, able articles on Aerial Photography, Night Photography, Flower Photography, and a few other subjects. Paper covers, price fifty cents. The other book is made up of two, out of print issues of the *Photo-Miniature*, issues for which there was a large demand. The book contains exhaustive treatment of the two subjects, subjects quite kindred, and both well illustrated. The price is fifty cents. Both can be obtained from the publishers, Tennant & Ward, New York.

"Photographischer Abreisskalender, 1912"

This annual visitor needs only to be seen to be ordered by every photographer who reads German, it being printed in that language. However, the pictures, of which there are about one hundred and twenty, will appeal to anybody. There is a separate leaf for every three days of the year, each leaf being embellished with a reproduction of a photograph of artistic merit, and in addition a formula or some bit of valuable photographic information. Each leaf is about the size of one of our own pages, the whole arranged to hang on the wall in a neat, compact form. It is published by the well known Wilhelm Knapp, Halle a. S., Germany; price two marks; foreign postage sixty pfennigs. Any reader desiring a copy can send us sixty five cents and we will have it mailed direct to their address.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

A Word From The Director Of The Postcard Division

This department has received several complaints recently concerning a few individuals who have been admitted as members of the Post Card Division of the I. P. A., but who seem bent upon abusing the privileges of the Association. The purpose of this Association is to give members an opportunity to exchange their photographs with each other and discuss their work by correspondence; or to allow its members to obtain photographic collections by fair and even exchange of work. It is not the intention of the Association to allow certain members to impose upon others by receiving their work and in return sending some bad and inferior work, or the cheap half-tone cards of a racy variety, which can be bought at post card emporiums at the rate of six for five cents; or, as in some cases, sending no return whatever for a member's work. It should be remembered that the Association is composed of photographers, most of them with intentions or desires to improve in their photographic abilities, and exchanging should be confined exclusively to photographic work. This division will not tolerate abuses such as have been brought to the Director's attention, and if they continue he will not hesitate to publish the names of the perpetrators in order that well-meaning members may be guarded against them. CHAS. M. SMYTH,

Director, Post Card Division, I. P. A.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Harry Gordon Wilson, Director Stereoscopic Division, 4954 Washington Ave., Chicago, Ill.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthroppe, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3540 School St., Fruitvale, Oakland.

Idaho—Eugene Clifford, Weippe.

Indiana—R. A. Underwood, 912 E. 15th St., Indianapolis.

Kansas—H. H. Gill, Hays City.

Mississippi—Joe C. Montgomery, R. F. D. No. 1, Box 36, Edwards.

Missouri—J. F. Peters, 6220 Berthold Ave., St. Louis.

New York—Louis R. Murray, Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Tennessee—George Parke, 292 Madison Ave., Memphis.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

FOREIGN SECRETARIES.

French—Charles A. Wagny, 247 Torrence St., Punxsutawney, Pa., U. S. A.

German—George N. Baumiller, Nutwood, Ohio.

ALBUM DIRECTORS.

Alabama—Richard Hines, Jr., 155 State St., Mobile.

Alaska—P. S. Hunt, Valdez.

California—Sigismund Blumann, 3159 Davis St., Fruitvale, Cal.

Colorado—O. E. Aultman, 106 E. Main St., Trinidad.

Connecticut—George E. Moulthroppe, Bristol.

Florida—Capt. E. S. Coutant, U. S. Life-Saving Service, Oak Hill.

Idaho—Eugene Clifford, Weippe.

Illinois—George A. Price, R. F. D. No. 1, Summit.

Indiana—H. E. Bishop, 1704 College Ave., Indianapolis.

Iowa—C. E. Moore, Eddyville.

Kansas—H. E. High, Box 72, Ellsworth.

Maryland—E. G. Hooper, 218 East 20th St., Baltimore.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Massachusetts—John Mardon, 161 Summer St., Boston.
Michigan—W. E. Ziegenfuss, M. D., 327 West Hancock Ave., Detroit.
Minnesota—Leonard A. Williams, St. Cloud.
Mississippi—Emory W. Ross, Institute Rural Station, Edwards.
Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.
Nebraska—Miss Lou P. Tillotson, 1305 South 32d St., Omaha.
New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.
New York—Louis R. Murray, 266 Ford St., Ogdensburg.
New Jersey—Burton H. Allbee, 103 Union St., Hackensack.
North Dakota—Jas. A. Van Kleeck, 619 Second Ave. North, Fargo.
Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.
Oregon—Leonard S. Hopfield, Box 622, McMinnville.
Pennsylvania—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.
South Dakota—C. B. Bolles, L. B. 351, Aberdeen.
Tennessee—George Parke, Box 41 Dutro Station, Memphis.
Texas—Frank Reeves, Stamford.
Utah—John C. Swenson, A. B., Provo.
West Virginia—William E. Monroe, Box 298, Point Pleasant.

NEW MEMBERS.

3125—C. G. Park, Trenary, Mich.
Class 2.
3126—C. D. Sulser, Maysville, Ky.
8x10 or under, various papers, of general subjects; for the same. Class 1.
3127—Arthur G. Payne, 410 6th St., Valley Junction, Iowa.
Class 2.
3128—L. D. Pfouts, B. P. O. E. Bldg., Eureka, Utah.
3¼x5½, 1¼x2¼, developing papers, of mountain scenes, camping and outdoor views; for any outdoor views away from cities. Class 1.
3129—H. C. Ihde, 666 Englewood Ave., Chicago, Ill.
Class 2.
3130—Andrus E. Helm, Box 436, Metropolis, Ill.
3¼x5½, developing papers, of landscapes, river and lake scenes; for the same. Post cards and prints. Class 1.
3131—Milford Baker, Box 346, Lander, Wyo.
4x5, developing and printing-out papers, of Indians, cowboys, bucking horses, mountains and game; for scenery and any interesting subject. Class 1.
3132—Herbert Winterburn, Fort Flagler, Wash.
3¼x5½ to 6½x8½, developing papers, of local views in and around the fort; for anything good, views preferred. Post cards only. Class 1.
3133—A. E. Davies, 2954 Linden Ave., Berkeley, Cal.
3¼x5½ and 4x5, developing and printing-out papers, of landscapes, marines, various interesting and historical buildings; for landscapes, marines, mountain scenery, bird studies, and typical scenes. Class 1.
3134—Otto C. Kell, 4458 Page Blvd., St. Louis, Mo.
Class 2.
3135—Charles P. Gage, Forest Service, Aragon, N. M.
Class 2.
3136—Eugene B. Lane, Box 422, Berlin, N. H.
Class 2.
3137—Homer H. Damon, Box 16, Enfield, Mass.
4x5, 5x7, 3¼x5½, various papers, of landscapes, buildings, fire scenes, and miscellaneous views; for landscapes, curious and comic views, animals and birds, also still life. Class 1.
3138—A. C. Andrews, 50th Co., C. A. C., Fort McKinley, Portland, Maine.
Post cards and 5x7, developing paper, of Philippine views (scenery and industrial), also views about Portland and transconti-

ental; for scenes and views of landscapes in U. S. and Canada. Class 1.
3139—R. E. Hulburt, R. F. D. No. 3, Albany, Ore.
Class 3.
3140—N. W. Jaquay, Box 795, Canastota, N. Y.
5x7 and 8x10, developing papers, of scenes in Central New York, farm photos, river and mountain scenery; for Western scenes, Washington, Oregon, Colorado, etc., scenery. Prints and post cards. Class 1.
3141—Clifford Harrington, R. F. D. No. 5, Holland, Mich.
Class 2.
3142—D. Edward Jones, 67 Lowell St., Wal-tham, Mass.
Class 2.
3143—Harold W. Leek, Box 385, Guthrie Center, Iowa.
2¼x3¼, 3¼x3¼, and 3¼x5½, developing papers, of landscapes, views, children and animal pictures; for mountain scenery, marines, old ruins, and animals. Class 1.
3144—Arlin D. Miller, 937 East 12th St. North, Portland, Ore.
2¼x3¼ and 4x5, developing paper, of general views; for the same. Class 1.
3145—L. D. Hammon, R. F. D. No. 2, Nap-panee, Ind.
Post cards and 5x7 prints, developing papers, of views, river and lake scenes; for river and lake views. Class 1.
3146—E. C. Garner, M. D., Lock Box 22, Martinsville, Ohio. Class 3.
3147—Mrs. H. M. Starr, care Mrs. Sherwood, 226 West 114th St., New York, N. Y.
Class 3.
3148—Charles R. Mader, R. F. D. No. 11, Winchester, Ind.
3¼x5½, developing and printing-out papers, of portraits, views, fancy effects in post cards, architectural views, etc.; for portraits and artistic effects in same, general landscapes, and architectural views. Post cards only. In exchanging, I desire no shoddy work, but only good work, as I have good work to send in exchange. Class 1.
3149—W. A. Hough, Box 51, Casa Verdugo, Cal.
3¼x5½, developing paper, of landscapes, and general views; for post cards only. Class 1.
3150—W. D. Read, Applegate, Cal. Class 3.

RENEWALS.

1723X—Harold Glixman, 1348 Ellis St., San Francisco, Cal.
(Was 1347 Webster St.)
Post cards, full size, developing paper, mostly glazed, of views of interest, as park scenes, buildings, statues, points of interest, current events, etc.; for full-size post cards of interest of general views, particularly in large cities, and foreign of like nature. Class 1 for good work.
1864—A. G. Lindgren, Echo, Minn.
3¼x5½ and 3¼x12, developing paper, of landscapes and water scenes in Minnesota, Colorado, Utah, California, Washington, and Canada; for post cards or prints of general interest from any portion of the world. Post cards preferred. Class 1.
2346—P. B. Speed, 1503 Pierce Bldg., St. Louis, Mo.
5x7 and smaller, developing paper, of miscellaneous views; for the same. Class 1.
2347—Mrs. Harold Jones, 123 W. Babcock St., Bozeman, Mont.
Post cards of various subjects, landscapes, child studies, flowers, speed work, etc., for anything interesting. Privilege of rejecting extended and expected. Good work only. Class 1.
2482 John W. Kimball, Guard Vt. S. P., Windsor, Vt.
(Was R. F. D. No. 1, Sharon, Vt.)
5x7 and post cards, developing papers, of a good assortment of views of New England scenery; for any views of interest of different parts of the country also from Mexico and foreign countries. Prefer prints with white margin in 5x7 or 3¼x5½ sizes. Will send good work and care for the same only. Class 1.

CAMERA CRAFT

2551—Edward Lawson, Kane, Pa.
Post cards, of street scenes, views and buildings; for landscapes and railroad views. Post cards only. Class 1.

2588—C. Lyle Demorest, 926 W. Washtenaw St., Lansing, Mich.
Up to 5x7, post cards and prints, of general subjects; for the same. Class 1.

2629—Howard L. Roe, 7241 Finance St., Pittsburgh, Pa.
Post cards and 4x5 prints, developing paper, of buildings and landscapes; for general views. Class 1.

2671—Arthur Soderstrum, 2944 E. 28th St., Kansas City, Mo. Class 2.

2712X—Edward D. Davison, R. F. D. No. 1, Munnsville, N. Y.
5x7, 3½x3½, and 2¼x3¼, various papers, of landscapes, historical scenes, and photos, also stereo views and post cards; for views of scenery, post cards, stereo views, or anything, as I do not limit my work to any one kind. Class 1.

2722—E. F. Atwater, Box 235, Meridian, Idaho.
Post cards and 5x7, various papers, of miscellaneous views; for anything of interest. Class 1.

2729—Fred A. Walker, 717 School St., McKees Rock, Pa.
(Was 712 School St.)
3¼x4¼, and post cards. Class 1.

3029—W. H. Hosmer, Union City, Mich.
(Was Minneapolis, Kan.)
Class 2.

3096X—David Gibb, 209 W. Vine St., Mt. Vernon, Ohio.
Post cards, fully covered, of landscapes and local views. Class 1.

CHANGES OF ADDRESS.

2110—Chas. W. Baker, R. F. D. No. 2, Clark, S. D.
(Was Box 66.)

2688—Chas. C. Ferris, Box 693, Syracuse, N. Y.
(Was Waterloo, N. Y.)

2726—Mrs. A. J. Merrick, 3008 Lyndale Ave., South, Minneapolis, Minn.
(Was 19 Sidney Place.)

2737—H. M. Brooks, 294 S. Wellington Ave., Memphis, Tenn.
(Was 214 4th Ave., Peoria, Ill.)

2785—E. D. Johnson, 1025 Scotten Ave., Detroit, Mich.
(Was 700 Morrell St.)

2839—J. H. Chinnery, Butte Falls, Ore.
(Was Woodville, Ore.)

3000—Arthur Miller, Jr., 330 Central Ave., Stevens Point, Wis.
(Was Eagle River, Wis.)

3012—Theo. Schwartzentrub, Le Roy, Kan.
(Was Neosho Falls, Kan.)

3636—R. M. Peterson, General Delivery, Ponca, Neb.
(Was Bear Valley Dam, Redlands, Cal.)

WITHDRAWALS.

2500—B. P. Angle, O'Neill, Neb.
(Was Battle Creek, Neb.)
Too busy to do any exchanging for awhile; will give new notice when ready.

CLUB NOTES

Rochester Camera Club

Showing an especially large and interesting collection of pictures, the Tenth Annual Exhibition of the Rochester Camera Club was opened at the rooms in Wilder Arcade, November 20, continuing for the remainder of the week.

There were one hundred and forty pictures shown, among them being a collection of eight by H. Oliver Bodine, of Racine, Wis., which have been shown in three American salons, at the International Exhibit of artistic Photography at Budapest, Hungary, and in Rome.

C. M. Brooks showed a collection of seventeen landscapes, one of which, "Twilight on the Genessee," is attracting considerable attention. "Sunset at Flodden Field," by F. W. Brehm, is a pleasing picture.

Other exhibitors were Mrs. Alonzo D. McMaster, E. C. Brown, G. J. Fallison, Charles C. Zoller, Frank D. Mundy, George W. Kellogg, N. Gordon MacNeil, A. Arthur Meade, John A. Niven, J. Otis Nagle, Wellington Roe, H. P. Sheldon, R. A. Smith, Zela F. Scott, Lula Scott, William H. Tickner, W. E. Townley, Miss Katherine H. Washburn, George White, R. M. Webster, Fred Zwick,

M. Bacon, G. Hammer Coughton, Charlie Evans, Sidney P. Hines, J. Jack, William F. Kress, Jr., Paul Ludkens, Herbert W. Ludwig and W. H. Cline.

The London Salon

The committee of the London Salon of Photography, in charge of the recent exhibition held at the galleries of the Royal Society of Painters in Water Colors, Pall Mall East, make the following gratifying report: The exhibition has proved a success, not only from the artistic point of view, but also financially, owing to the large measure of support accorded to it by the public. Now that the accounts have been cleared, the treasurer reports a considerable balance in hand to be carried forward. As the members of the Salon have not been called upon for any subscriptions whatsoever, this is a matter for congratulation, in view of the fact that other large pictorial photographic exhibitions held in recent years at this gallery and elsewhere in London have not been financially successful. In consequence of this, and the appreciation extended to the Salon by both the public and the press, the gallery has again been engaged for a similar period in 1912.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Do Not Overlook It

In the advertising section will be found a new full page advertisement, that of Frank J. Curry, Philadelphia. We would call particular attention to the Core Developing Frames, an article whose utility will be self-evident to every reader. One of our correspondents has just written a long letter telling us of their many good qualities and urging us to bring them to the attention of our readers as a matter of importance. This the advertisement does, and, rather than give you our version of his lengthy letter of praise we are asking you to write the advertiser for circulars should the advertisement itself not give you all the information desired. The firm is constantly adding new specialties, specialties that are both new and valuable, and our readers will do well to ask to be placed on the mailing list for descriptive matter as issued by the firm.

A Simplified Developing Agent for Papers

Tozol is the trade name of a new and simplified developing agent, placed on the market by the Eastman Kodak Company, for use with developing papers. We have personally given it a careful trial and find it excellent. It is a developer that should rapidly gain favor with those amateurs who prepare their own solutions, because it is economical and convenient to use. The results obtained by the use of Tozol are equal to those of any combination of developing agents on the market, while the compounding of the formula is much more simple.

To make a stock solution, just add the required amount of sodas, bromide and wood alcohol to an ounce of Tozol, and dilute as instructed for the various developing papers. The action of this developer is strong and vigorous, yet the resulting prints are rich in tone value, retaining all the delicate detail and gradation of the negative. A one ounce package costs but twenty cents, a quarter pound seventy cents, a half pound one dollar

and thirty cents, and one pound costs only two dollars and a half.

The introduction of this new developing agent is only another indication of the Kodak idea of progress in things photographic. Quality and simplicity are always the first considerations, and the quality always insures the dependability of the Kodak products.

That Special Course

We can't imagine a working professional making a better investment than spending the month beginning February fifth at the Southern School of Photography, McMinnville, Tennessee. This is the month set aside for the special Post Graduate Course. "Daddy" Lively's eight years' experience with the school, his admitted standing as a finished photographer, and the success of the hundreds who have profited by his instructions in the past, assure full value for the small tuition charged for this special course for professionals, or for the regular courses. Give yourself an enjoyable vacation and learn all that is new and of value in the business at the same time. You will make more money in the remaining eleven months for having done so.

Illinois College of Photography

One of the most instructive features seen at the College in many years was the illustrated lecture, "How Other Photographers Saw Me During 1911," delivered by George Graham Holloway, ex-president of the National Association of Photographers. This lecture is very unique in its nature, consisting of fifty pictures made by fifty different photographers during the year 1911, which is Mr. Holloway's fiftieth birthday year. In all cases the photographer had carte blanche, Mr. Holloway in no way interfering or suggesting. The variations are startling, and, in many instances, one has to look twice to assure himself that the picture is really

CAMERA CRAFT

that of Mr. Holloway. There are no two the same, each operator having "seen the subject differently." This is undoubtedly a ten strike for Mr. Holloway as a lecturer, and his pleasing manner of delivering it will appeal to any audience. Every State and national convention should feature this lecture for 1912.

Catalogue No. 2

We have just received a copy of Catalogue No. 2 from the Photo Crafts Shop, Racine, Wisconsin, and would advise all our readers to send for one. Tempting prices are quoted on developing, printing and enlarging, and their "special," a 7x16 enlargement, framed, for ninety cents, should bring them a large number of new customers. Drop them a card giving your name and address.

Reported By William Wolff

Harold Parker of Pasadena has been blessed with a son and is in some difficulty as to a choice of names. He says that Ensign sounds a little too nautical, Ansco has a Swedish flavor, while Cyko prints at night and they want him to stay home evenings.

George W. Mackness, sales manager for Burke & James, Chicago, has been in this city during the month and reports business exceptionally good. He also found the stock houses in Portland, Seattle and that territory doing a fine business.

J. T. Hall and Frank Aston, of San Luis Obispo, report a large holiday trade.

Dan Freeman, of Pacific Grove, sent out a beautiful 1912 calendar to his customers.

John Watson, of Santa Clara, has just completed fixing up his reception room in Mission style to make it consistent with the name, The Mission Studio.

Fred C. Nines has succeeded to the Nines-Parke Company in Fresno. He is doing a commercial business.

Frank Beck has added a new operator to his establishment. (It is a boy.)

R. W. Horne, of Salinas, has lately had his ground-floor studio refitted in fine style.

Mr. Biddell Visits The East

G. E. Biddell, the well known "Camera Doctor" of this city, is taking an extensive trip East, combining business and pleasure. He will visit his old home, going as far as the Atlantic coast, and make numerous intermediate points. Mr. Biddell has confined himself so closely to his business for so many

years that his numerous friends feel quite sure that he will find the trip an enjoyable and beneficial one.

The Wonderful Little Ensignette Camera

The Ensignette Camera, advertised on another page of this issue, is a dainty little folding camera, no larger than a box of matches. It will slip into the vest pocket, case and all, and may be loaded in daylight with six exposure spools of Ensign double instantaneous, non-curlable film.

In view of the fact that a heavy demand is expected on the Ensignette fitted with anastigmat lenses, a special model with focusing attachment, permitting of the use of a high-grade lens equipment and supplied with such lenses, has been prepared.

Even though you have other cameras, you should have an Ensignette to complete your equipment. If your dealer has not yet put them in stock, write to G. Gennert, 24-26 East Thirteenth street, New York, or 212-6 North State street, Chicago, Ill.

The Barnett Handbook No. 7

An advanced copy of a most instructive booklet bearing the above title has just reached our desk. To give some idea of the valuable information crowded within its pages, the following headings will serve: Exposure, Development, Drying, Toning Bromide or Gaslight Papers, Hypo-Alum Toning, Toning for Blue Tones, Bright Red Tones, Green Tones, Reducing, Clearing, Improving the Tone of Prints, and many good developing formulas for bromide and gaslight papers. In addition, there are a few pages devoted to the papers manufactured by the publishers of the book, the sub-title of which reads: A Complete Guide to the Making of Prints and Enlargements on Barnett Bromide and Gaslight Papers. The letter therewith advises that a free copy of the handbook will be sent to any reader of CAMERA CRAFT who will apply. Address either Elliott & Sons, Limited, Herts, England, or J. L. Lewis, American Agents, 522 Sixth Avenue, New York City.

Pictures Wanted

The Bausch & Lomb Optical Company want photographs for use in their publications. They are ready to buy negatives which illustrate the quality and uses of Tessars Ic and IIb, Convertible Protare VIIa, Protar Wide

NOTES AND COMMENT

Angle Lenses, Telephoto and new Ray Filters. They prefer speed pictures, hunting and fishing scenes and interior portraits and views. Our readers will kindly give this matter their attention.

The Spirit Of Christmas

Too late for notice in our December issue came a handsome little booklet with the above title. However, as a camera is as seasonable this month as last, the booklet will be found just as interesting. It is quite full of good suggestions to the buyer of photographic goods and our readers will do well to send for a copy. They are free on request. Address Herbert & Huesgen Company, 311 Madison avenue, New York.

An Advertising Novelty

One of the most clever advertising ideas recently reached our desk from the Berlin Aniline Works, the makers of the well known Agfa products. What was more, it was a novelty that was distinctly photographic. It consisted of an ordinary looking proof envelope bearing the warning "Caution—open this envelope only in your developing room, and place card inside immediately into a tray of developer. Watch close the results." It is safe to say that practically every recipient followed directions. He was rewarded with a coupon that with one of the new Agfa books, "Photography by Flashlight," or "Photographic Formulæ." If you did not get one, write at once and one will be sent. Address Berlin Aniline Works, 213 Water street, New York.

The Best Lens For Your Purpose

The Wollensak Optical Company have in preparation a series of three booklets, the first, "What Is the Best Lens for My Purpose?" being ready by the time this reaches the reader's eyes. Write the firm, mentioning this notice, and ask that a copy be sent you, not neglecting to ask them to put your name on the mailing list. The promotion department, of which Mr. Bodine is head, is constantly sending out calendars, booklets of Japanese tissue for lens cleaning, folders describing their new pictorial lens, and other matter that will appeal to the photographer. Do not overlook this hint, but write as suggested. It will be well worth your while. Address Wollensak Optical Company, Rochester, New York.

Get A Copy

Our readers should not neglect to write Department H, Seneca Camera Manufacturing Company, Rochester, New York, for a copy of their catalogue. The firm manufactures a line of cameras and other photographic goods that should have the consideration of every photographer, both amateur and professional. The catalogue is a handsome one and one that will give the reader much information that will be of value to him. They are sent free upon request, and the firm is desirous of getting as wide a distribution as possible for them, knowing that the goods listed therein will appeal to the recipient when in need of photographic material.

The Prize Winner

The prize of five hundred dollars offered by the Eastman Kodak Company for the best work of a professional photographer, was won by S. H. Lifshy, of Brooklyn, New York. The negative which won this prize was made with a Cooke portrait lens, series VI, of thirteen inches focus. Mr. Lifshy is to be congratulated upon his success and the Cooke lens people should find his success most gratifying.

The Twenty-fifth Anniversary

In the general development of civilization, with its manifold interests, twenty-five years is merely a day; but in the progress of invention and the industries arising therefrom, it is sometimes an age. This thought is appropriate in connection with the twenty-fifth anniversary of a world-famous optical manufacturing firm: The Optische Anstalt C. P. Goerz, Aktiengesellschaft. The development of optical apparatus, from the days of the half corrected window glass lens to the modern anastigmat, has been no less important even though less sensational, than the sudden advancement in methods of lighting, telegraphy and transportation. In this course of invention, the name has become, to the photographer, a household word.

The firm of C. P. Goerz, was founded in 1886, and two years later it occupied a factory on a small scale in Berlin. The first objectives made were of the aplanatic type, under the trade name, Lynkoioskop; and the first lens which they put upon the market was the Lynkoioskop C 2. These lenses

CAMERA CRAFT

were so well received that Mr. Goerz decided early in 1889 to enlarge his factory, and for this purpose he removed to Schoneberg. In the years 1890 and 1891 the plant was still further enlarged. In 1892 and 1893 the double anastigmat type of lens was introduced by the firm marking a new epoch in photographic optics. To the firm belongs the credit of having introduced the first symmetrical lens fully corrected for anastigmatism, a lens which holds today a pre-eminent position as a universal photographic objective. As early as 1894 the company had made twenty thousand lenses; six years later the number was sixty thousand; in the year 1903, one hundred thousand, and in 1908, two hundred and sixty thousand lenses had been manufactured in the Goerz factories for photographic purposes alone.

Owing to the greatly increased production of the firm, it became necessary to commence the construction of a large modern factory, and since 1898 the firm has occupied at Friedenau bei Berlin its own factory, having a ground space of fourteen thousand square meters, of which five thousand is covered with buildings, and employing about two thousand skilled workmen. Branch factories have been established at Winterstein, in Thuringen, Vienna, Pressburg and St. Petersburg. The products of the C. P. Goerz factory in Berlin were first introduced to the American public during the World's Fair, at Chicago, in 1890, and ever since the firm has had offices and salesrooms in New York City. To supply the growing demand of Goerz products in the United States, C. P. Goerz decided in the year 1899 to establish in New York a branch factory, and in 1906 it was deemed advisable to organize an American company, which is the present C. P. Goerz American Optical Company. Mr. Goerz, the founder and present active head, may well look back with pride and satisfaction upon the twenty-five years of his activity and success as a manufacturer of photographic and optical goods.

"The Bissellonian"

It was announced at roll call Monday morning in the two colleges that the students would support a college magazine, *The Bissellonian*, to be issued each month, beginning with December. The report was received with much enthusiasm, which was very grati-

fying to the board of editors. It has been felt by the majority of students for many years that a college paper was the one thing lacking to inspire school spirit, and with the facilities offered by the nature of the work taught in the schools, it is believed that *The Bissellonian* will outclass any other college publication, in regard to the technicality of the printing and engraving.

It has been learned by reports received at this office that the first issue will be a Christmas and greeting number, featured with also a quadricolor decorative cover design, which will be the work of the students attending the colleges.—*Efingham Democrat*.

Some Interesting Stereograms

Down in the southern part of the State they have been excavating some remarkable deposits of prehistoric bones of the Pleistocene age, the greatest known deposit of such material, the oil and asphalt in which they are embedded causing remarkable preservation of these bones for many thousands of years. There they have found the entire skeletons of animals of which only a few teeth or bones had before been discovered. The Pleistocene period is supposed to be that just preceding the appearance of man on this globe, and animals of huge bulk, such as the mastodon, the giant sloth, and the sabre-toothed tiger, were at their zenith. The only stereoscopic pictures of these interesting discoveries have been made by Frank C. Winter, 902 Security Building, Los Angeles, California. Any of our readers who may be interested in these interesting and educational subjects will do well to write Mr. Winter for an illustrated list of these views.

The Miehle Press In South America

Sigmund Krausz, of the Miehle Printing Press and Manufacturing Company, of Chicago, has lately returned from an eight months' journey in Mexico, Costa Rica, Panama, Ecuador, Peru, Bolivia, Chili, Argentine, Uruguay, Paraguay, Venezuela and Cuba. The trip was undertaken with a view of looking up Miehle presses working in customers' shops in those territories; to renew old-established relations, and to form new ones.

"It is no exaggeration," says Mr. Krausz, "when I say that there is hardly a printing

NOTES AND COMMENT

establishment in all the countries I visited where the Miehle is not favorably known. As an example, I may quote six Miehle presses of large size which have been working day and night for over six years without necessity for any repairs whatever during that period, in the big establishment of *Zig-Zag*, the most important publishing office in South America.

"A similar testimony was given by the *Compania General de Fosforos*, the largest printing office in Buenos Ayres, where several Miehles have also been employed since 1904, and the most practical proof of entire satisfaction has been given by our receiving last summer orders for four new machines from these two houses.

"As to the business of printing machinery, in general, it is the Germans who have the upper hand at present, having crowded out the French; who, at the opening of the market some thirty or forty years ago, almost had the monopoly of it. British manufacturers sell here and there, and some Italian presses are going to countries with large Italian population. In this connection I must mention that most of the foreign two revolution presses which have been lately imported there show more or less ill-designed attempts to imitate the bed motion and other features of the Miehle. After all, imitation is the most sincere flattery."

The New "Sunset Limited"

In accordance with announcement made some weeks ago, the Southern Pacific Company, on Tuesday last, re-inaugurated its famous "Sunset Limited" service between San Francisco, Los Angeles and New Orleans, giving the State of California one more splendid train de luxe to connect it with the East. The "Sunset Limited" will leave San Francisco every Tuesday and Friday, arriving at the southern metropolis the following Friday or Monday, as the case may be. Coming westward the train will leave New Orleans every Monday and Thursday, arriving in San Francisco on Thursdays and Sundays. The running time between the two cities is thus, shortened twenty-four hours, or one full day.

Every luxury which the human brain could devise for the comfort, enjoyment and safety of transcontinental railway passengers has been employed in the construction, equip-

ment and proposed operation of the "Sunset Limited." For the busy man there are stenographers, valets, barbers, telephones, special mail boxes, daily stock reports and the like; for the ladies there are maids, manicures, hair dressers, electric fans, writing rooms and an elaborate array of current magazines, popular fiction, etc.; while for everyone there are diners, the observation cars, the shower baths, electric lights, buffet and a hundred other large and small conveniences. "Sunset Limited" is a train de luxe in every particular.

A trip to New York City via "Sunset Limited" offers many delights. Whirling across the continent for three days the traveler lands in New Orleans, where one may board one of the Southern Pacific liners which ply across the Gulf of Mexico and up the Atlantic coast to New York. In this way a delightful break in the otherwise tedious coast-to-coast trip is accomplished. First-class tickets from San Francisco to New York are good on the Southern Pacific vessels.

Sacramento Passes a New Ordinance

An ordinance prescribing the amount of license to be paid by persons, firms, corporations, co-partnerships, or associations engaged in the business of taking or selling photographs, or enlarging photographs or pictures of any kind, for pay.

The Board of Trustees of the city of Sacramento ordain as follows:

Section I. The following rates of license and no other shall be charged and collected in the city of Sacramento from each person, firm, corporation, co-partnership, or association conducting or carrying on the business of taking or selling photographs, or enlarging photographs or pictures of any kind, for pay:

Sub. 1. When said business is conducted or carried on by any person, firm, corporation, co-partnership, or association having a regular or established place of business:

(a) When the monthly receipts are \$600.00 or less, \$2.50 per quarter.

(b) When the monthly receipts are over \$600.00 and less than \$1500.00, \$7.50 per quarter.

(c) When the monthly receipts are over \$1500.00, \$20.00 per quarter.

Sub. 2. When said business is conducted or carried on by a transient photographer, \$50.00 per quarter.

CAMERA CRAFT

Section II. A transient photographer, within the meaning of this ordinance, is defined as one who engages in the business of taking or selling photographs, or enlarging photographs or pictures of any kind for pay, without having a fixed, regular and established place of business in a store or office building located within the limits of the city of Sacramento. But a photographer employed as such by any newspaper, magazine or other publications, and who presents credentials showing such employment, shall not, while so engaged, be deemed within the meaning of a transient photographer as defined in this ordinance.

A license issued to a transient photographer shall not be transferable, nor authorize more than one transient photographer to conduct or carry on the business of taking or selling photographs, or enlarging photographs or pictures of any kind, for pay, within the city limits of Sacramento, and when a corporation, co-partnership, association or firm engages in the business of transient photography for such they shall be required to procure a license as transient photographer for each person employed by said corporation, co-partnership, association or firm within the limits of the city of Sacramento.

Section III. Every person who engages in, conducts or carries on the business of taking or selling photographs, or enlarging photographs or pictures of any kind, for pay, without first procuring a license under the provision of this ordinance in the city of Sacramento, shall be guilty of a misdemeanor and upon conviction thereof shall be fined not less than \$50.00 or more than \$150.00, or shall be imprisoned in the city or county jail not less than twenty-five or more than seventy-five days.

Section IV. This ordinance shall take effect thirty days after passage.

Illinois College of Photography

Jas. M. Smith & Sons Company, of Chicago, have installed in the operating rooms one of their perfected portrait flash cabinets, to be used by the students in their flash-light work. This cabinet is very similar in construction to a single-slant light, with four eighty-candle power lights for focusing, and a flash device with electric battery ignition. It is particularly designed for residence stu-

dios, taking the place of a skylight, thus making it possible to use any building for studio purposes.

A severe rain and wind storm fell upon the city and college recently and did considerable damage to trees, chimneys, sheds, etc. The college escaped with the loss of a couple of oaks and a damaged skylight and chimney.

Another college romance was appropriately consummated last month by the marriage of Charles W. Gates and Miss Lucile Yerkes, both students of 1908. Mr. Gates is engaged in the photograph business in Nebraska.

The musical young gentlemen of the college have organized a glee club for our entertainment during the coming winter, and expect to soon be able to produce some very sweet sounds.

James G. Campbell Passes Away

James G. Campbell, one of the most efficient and best known salesmen in the printing press trade, passed away at his home in Morgan Park, Chicago, on December sixth, 1911. Mr. Campbell's connection with the printing press trade began in 1877. His technical knowledge was such, he having worked in a factory for that purpose, that he practically erected every press he sold for a number of years. The last six years of his active life were spent with the Miehle Printing Press and Manufacturing Company, of Chicago, his headquarters being at St. Louis. A host of friends in the printing trade will be pained to learn of his death.

Notes From The Bissell College

Messrs. Koehn and Munson, students of 1910, have returned to finish the photographic course, and Harold Van Leyen has returned to resume his course in engraving and three-color work.

We received news of the marriage of A. O. Young, of Altoona, Kansas, last month, to a young lady of that city. Mr. Young was a student of 1909.

President Bissell and wife have just, returned from a month's visit to San Francisco and other points in the West.

John Sharples, student of 1907, and now conducting a studio at Sullivan, Illinois, made the college a visit last month.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

Some Facts

CYKO in 1899 made its appearance and gradually worked its way to the front, because it was the only paper with great latitude in exposure and with three grades of contrast to fit any negative. Its action was absolutely positive, hence the slogan: CYKO the Positive of Photography.

CYKO in 1908 had demonstrated its quality so forcibly to the great army of amateurs, that finishers all over the country adopted its use, in spite of Trust restrictions, in order to meet the exacting quality of work demanded by their customers, hence the sour grape derision of our Trust competitors: CYKO is a commercial paper.

CYKO in 1909 had worked its way into the portrait studios on account of its latitude, fine gradations, uniformity, tough emulsion and its beautiful sepia results, hence our Trust competitors invented the epithet, CYKO—the pro-amateur paper.

CYKO in 1910 succeeded in combining into one emulsion all the good qualities of CYKO as such, and all the essentials of all other professional photographic printing mediums, and PROFESSIONAL CYKO became the only high grade studio paper.

CYKO in 1911 has been so generally used that the Trust had to issue permission to its dealers to use CYKO paper for amateur finishing and to sell PROFESSIONAL CYKO to its studio customers.

In 1912 everything is CYKO.

AnSCO Company, Binghamton, N. Y.

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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No. 2

Indexing Photographic Literature

By H. Crosby Ferris, I. P. A. 879



With Illustrations by the Author

"Ideas quickly fade, and often vanish quite out of the understanding, leaving no more footsteps or remaining characters of themselves than shadows do flying over a field of corn."—LOCKE.

"And out of mind as soon as out of sight."—BURKE.

When one is searching for that helpful hint, special formula or particular process that one recollects having read sometime, "somewhere," the requisite information almost invariably proves elusive, except when one has everything of practical value contained in one's collection of photographic literature properly indexed. It requires considerable time, ability and the exercise of patience to do this indexing, but one is amply repaid by the rapidity and certainty with which one can refer to any desired subject contained in the books and periodicals one possesses.

There are several different methods of accomplishing the desired end, but by all odds the most satisfactory is the card index system. The writer has in daily use such a system, and finds it most desirable in every way; covering, as it does, subject-matter contained in over five hundred copies of photographic journals, besides clippings in scrap-books, and kindred articles in numerous books and periodicals outside his own individual collection. To begin with, one's collection of magazines should be bound or fastened together in some manner, the most convenient form for monthlies being six numbers in a volume. If one does not care to incur the expense of regular binding, self-binders can be ob-

CAMERA CRAFT

tained at small cost, or one may fasten the copies together with punch and tape, or brass fastenings, as fancy or ability dictates, the main points being convenience and accessibility. The following method, in use by the writer, has been found practical and economical.

First.—Remove the covers and advertising pages, though this is not really necessary, except that it reduces the bulk of the volume very materially, space reduction proving quite an important item when one has a large collection. After the covers have been removed, it is an easy matter to open up the ends of the wire stitches and pull them out, this facilitating the separation of the superfluous pages. With a binder or eyelet punch, make two holes about two inches from either end of the magazine, and three-eighths of an inch from the back. Round-headed brass fasteners such as are used to fasten together typewritten sheets and manuscripts, an inch or so in length, are put through the holes from the front and the ends fastened down on the opposite side of the volume. This is quite a serviceable method of home-made binding, and should one desire to remove a copy, or add others, it is a simple matter and quickly done. If the fasteners can not be procured, stout cord will serve, threading same through the binding holes several times, a single cord passing along the back on either side; and there is nothing better for this purpose than the regulation shoe laces. Retain one of the magazine covers for finishing off the volume, and after cutting apart at the back and trimming, use the front leaf for the cover and the other at back of volume. It is a good plan to punch the cover first, and use it as a guide when perforating the magazines that make up the volume, and in that way secure uniformity.

Having the entire collection of literature thus bound in convenient shape, proceed to properly index the contents. The regulation index cards are procurable from any dealer in stationery or filing system supplies, ruled or unruled, 3x5 inches in size, or one can use a heavy quality of writing paper. The unruled quality is preferable, especially when one uses a typewriter with which to make the entries, but if one uses pen or pencil, ruled slips would be more desirable. The writer uses both methods, and would recommend making the initial indexing on paper slips, with pencil, and, when all is complete, and the slips assorted as to subjects and divisions, copying the entire index on the regular cards with a typewriter. Possessing a print trimmer, one can cut odd scraps of paper to suitable size that will answer for the preliminary work, and by having a supply of these on hand, each magazine can be indexed as soon as received, thus keeping all information accessible "right up to the minute." As a precaution, when through indexing an issue, write the word "Indexed," on the front page margin. By checking off each as soon as indexed, one can readily tell whether an article or issue has been overlooked.

A set of subject guide cards should be prepared, greater in height than the index cards by about three-eighths of an inch, but of the same length. These guide cards should be of medium-weight manila tag stock, although common straw board, such as comes in packages of gaslight printing paper, will answer. The color might well be different than that of the index cards. The upper right-hand corners of these guides should be cut off diagonally, about half the

INDEXING PHOTOGRAPHIC LITERATURE



FAR AWAY ROCKIES—A COLORADO LANDSCAPE

height and width of the cards, and if lines are drawn through the center of card each way, and the cut made from where the perpendicular line touches the top margin, to where the horizontal line reaches the right-hand end margin, the required uniformity of slope will be obtained. The projecting top at left-hand of card serves to carry the title required for reference to the different topic divisions. These subject divisions may be such as each individual requires, arranged alphabetically, of course, and including well known photographic nomenclature, such as "Camera," "Developing," "Exposure," "Negatives," "Portraiture," etc., that will suggest themselves, or the requirements of the subject-matter in hand dictates. Additional headings will suggest themselves from time to time, and guide cards can be prepared and placed in the filing tray any time. Having decided on the subdivisions required, the titles may be written or printed on the top margins; and, as the index slips are written and assorted, they should be assembled behind their respective guide cards in alphabetical order. The writer made a preliminary set of guide cards from strawboard, in the manner described, and from old catalogues, circulars and advertising pages, cut out the desired wording and pasted on the margins, such procedure serving the purpose admirably, even though hardly any two labels are similar in size or style of type. The catch lines are legible, and almost any desired legend may readily be procured from camera catalogues and the like.

For preserving the index, a filing box or tray is necessary, of convenient length and depth. The index may be started in a pasteboard box or ordinary cigar box, and when by additions it outgrows its quarters, a larger receptacle

CAMERA CRAFT

may be provided. As a convenient and economical filing box for the preliminary index slips, nothing will equal the long-style cigar box in which come packed the well-known Old Virginia Cheroots, to be had at any cigar store for the asking. One of these boxes will easily house the entire index system of the average amateur photographer. These boxes are twelve inches long, seven inches wide, and four and one-half inches high. They are wider than the length of the index slips, but this is no detriment, as will be found in practice. The front side of said box is composed of two pieces, hinged together, making a sort of drop-leaf affair, that proves as convenient as though the box had been especially constructed for use as an index case. To be sure, those who have "money to burn," and want everything the best, can procure specially ruled cards, and beautifully polished filing cases and cabinet, and all the rest of it, but the average photographer will scarcely care to go to so much expense, and the above-mentioned home-made accessories will usually serve his purpose equally well. The vital point in this indexing proposition, anyhow, is to assist one's memory, and to provide a quick and systematic means of turning to what one has relating to any matter under consideration. And a complete and well-arranged index does the trick every time.

Not only can one index the text of one's collections, but also the scenic and portrait reproductions to be found in profusion in all photographic periodicals, much of which can be turned to profitable account by the progressive photographer. The index work may also be extended outside one's own immediate collection of journals and scrap-books, to include books and periodicals in libraries to which one has access, thus placing at one's disposal an immense up-to-date fund of photographic information. The cards or slips used would be the same as those of the regular index system (a distinguishing color would be an advantage), placed in alphabetical order in their respective divisions, bearing, in addition to the topic title, name of book, page, name of author, and library catalogue number; if a periodical, the month of issue as well as volume number. Other notations can be made on the slips, such as available usefulness of the articles, date of reading, etc. It might be well when indexing this outside literature to briefly outline the topic on the slips, giving in condensed form the gist of the subject, and omitting all unimportant details. This compact knowledge might be typewritten on the card, and if more than one is required they should be consecutively numbered. This method is especially applicable to working formulae and processes, and one would not need to again refer to the original source of information, if strict accuracy be observed in copying.

The crux of the whole matter lies, however, in distinguishing just what may be of actual use to each individual. This will require some practice, but the habit is easily cultivated, and will soon become a second nature. Rarely ever is it necessary to index all the articles in one's favorite journal. The helpful hints and experiences, and methods of doing things are what one requires, but each one must exercise judgment, and select the most practical knowledge for his individual requirements, and not encumber his index with useless matter.

Now comes the practical work of indexing. A little study of indices in standard volumes, by those unaccustomed to this work, will prove helpful.

INDEXING PHOTOGRAPHIC LITERATURE



SUMMIT OF PIKE'S PEAK

It is supposed that one has collected all magazines or papers containing matters photographic, has arranged same by months and years, and bound or fastened them in volumes as heretofore suggested. With a bunch of the index slips at hand, start in on a volume, and proceed to write the titles of articles desired, using a separate slip for each title or subject. Follow this with the page number, name of periodical, and month and year of issue. For example, here follows a copy of one of the cards from the author's index, which illustrates the procedure:

Expo.

INTERIORS, BEST PLATE FOR

9
P. Light
Nov. 1907

The catch-word, "Expo.," in upper left-hand corner, serves as a guide when assorting the written slips for the various topic divisions. The proper division is determined by the nature of the articles being indexed, and written in the corner of slip as indicated, as "Exp." for Exposure, "Neg." for Negative, etc. This will naturally occur to one as the work progresses, but afterwards, on looking over the index, it may be found advisable to make some changes in the

CAMERA CRAFT

slip assignments in order to more readily facilitate reference thereto. The figure "9" is the page number, "P. Light," the name of the periodical ("Photographic Light"), and below this are abbreviations of month and year. Abbreviations are used copiously, as "C. C.," for CAMERA CRAFT, etc. Date and numbering stamps will be found convenient and greatly aid in the work. Many useful items and suggestions constantly occur which lack printed titles, but these can be supplied for indexing purposes by brief notations on margins of page. In writing the titles on the slips, eliminate the articles "A," "An," and "The" at the beginning, using the principal descriptive word as a starter, and for subsequent use when assorting the slips alphabetically. To further illustrate this point, as well as additional notations frequently made on the index cards, another example is herewith given:

<i>Neg.</i>	
DEFECTS IN N. AND THEIR CAUSES	
<i>Foggy All Over</i>	<i>Finger Marks</i>
<i>Lack Contrast</i>	<i>Clear Corners</i>
<i>No Detail</i>	<i>Yellow Stains</i>
<i>Clear Spots</i>	<i>Mottled Film</i>
<i>Opaque Spots</i>	<i>Other Defects</i>
<i>292</i> <i>Photo Beacon</i> <i>Dec. 1907</i>	

When the indexing of a volume is completed, gather up the resultant cards and assort them as to subjects selected at the outset, and for which guide cards had been provided, and then arrange the titles of each divisions alphabetically, placing the cards behind their respective guide cards. As additional slips are written they can be placed in the proper divisions in alphabetical order, and soon the filing box will contain a respectable array of indices for ready reference. Arrange the index slips and guide cards in the tray with the reference titles facing all one way, providing a tapering block or similar device to give the cards the proper incline for examination, this being slid along as the tray fills up. The regular filing system trays are provided with a groove in bottom of box and an adjustable block for this purpose.

Useful special reference records can also be made up from the card index, should one be interested in special subjects, as enlarging, lantern slidemaking, etc. A complete list of all available data on the chosen subject can be written on a separate sheet of convenient size, divided into say four columns, thus:

SPECIAL REFERENCE RECORD

<i>Subject and Titles</i>	<i>Publication</i>	<i>Date</i>	<i>Page</i>

The greatest accuracy should be observed in all the details of the work, and frequent comparisons made to see that the page number, date or name of periodical, has not been omitted, otherwise a slip with any such omissions would prove absolutely worthless for reference purposes.

Doing Something For Somebody

By Felix Raymer



After looking over the September issue of *CAMERA CRAFT*, and reading with considerable interest the very fine article by F. E. Crum, the title of which is "Learning Photography From the Magazines," I am forcibly reminded of the expression made at one of our national conventions by a very noted lecturer, and the words of which will be found heading this article.

Surely no man can be so coldly constituted but that he will be made to feel better by having been told he has done some good in this world. A true man is one who feels an interest at all times in all mankind and is ever ready to do something for some one. Mr. Crum referred in a very nice way to the good he had received from a series of articles that I contributed to *Western Camera Notes* several years ago. I am sure Mr. Crum can have no idea of the importance I attach to these few words of commendation. But after what I am about to say, he will no doubt gather some small conception of their significance. For about twenty years I have been contributing to the photographic magazines of this country, and in addition to that have on all occasions had it distinctly understood that I would answer to the very best of my ability any questions asked of me by the readers of any magazine in which an article of mine was seen. I have tried to be very careful to answer every letter of that nature. Now listen, or read, carefully: In all of that time, and notwithstanding the hundreds, yes, I believe I will be safe in saying hundreds, of letters I have written in answer to inquirers seeking information, I have never, never received a letter of thanks from the inquirer after the information was given him; and Mr. Crum's words of appreciation are the very first public acknowledgment of good received. Now this is not a kick; bless your sweet life, no. I understand human nature too well for that. "Too oft we forget the means by which we ascend," and more frequently we fail to say, "Thank you." I can speak from experience, and I say without fear of contradiction that all magazine writers are human; and, being human, feel more or less pride in receiving a letter asking for information pertaining to some branch of our business. Further, this same writer is so human that he would appreciate a "thank you," although failure to do so will not cause him to refuse information to the next one.

Could we but know the good we do, how much more good we would do. A word of appreciation "now and then is good for all men," and acts as a tonic, stimulating them to greater efforts. But it is more human to find fault, to kick, complain, and to criticise. It is much more difficult to give one the glad hand and say a word of appreciation than it is to criticise. Any fool can find fault, but it takes a man to say, "You have done better than I would do." Jealousy, that green-eyed monster, too often controls men's hearts, and for fear of losing a little of their own greatness by saying, "Well done, thou good and

CAMERA CRAFT

faithful servant," they make themselves small in the eyes of those who know, as well as in their own eyes, by withholding the words that would cheer another on to greater deeds of usefulness.

Sometimes I think there is less real good fellowship among photographers than among those engaged in any other profession or business. Perhaps I know more about photographers, though, and only imagine it. I know photographers who will not acknowledge their business to strangers. Such a man is a disgrace to his profession, and should be denied by them if the time should come when they may. It is the spirit of good fellowship manifested at the conventions that makes them a success; a desire on the part of every one to help some one else. Where this feeling does not animate the crowd, the convention is always a failure. If a speaker or demonstrator is received with the glad hand, hail fellow well met disposition, on the part of the crowd, that demonstrator is going to work as he never worked before. I know, for I have been demonstrating at the conventions long enough to appreciate the moods of the crowd and to know that if they are a bunch of "sore heads," my head will be so sore by the time I go home that I will have to wear a bandage instead of a hat.

Another matter, one that, by some convention attendants, may be considered a small one, is their way of going to a convention without taking some of their own work to be shown by the side of their fellow members' pictures. You gain much good information, of course; but, boys, speaking to you from one of the judge's point of view, you are losing an awful lot of good solid meat. Now, take your work to your convention, and just bear in mind one great thing, and that is, all of the other chaps were, at one time, right where you are now—seeking knowledge, and very likely many of them need it, even now, as badly as you do. Say, friend, put aside your sensitiveness, "butt" right in, and if the judge is the right sort, he will do more for you than for the "wise guy."

But, Mr. Editor and readers, friends all, don't think I am registering a kick. Nay, nay, Pauline, I am still in the writing business, and if you want an article at any time on any topic photographic, and will let me know, I shall be glad to "do something for some one" in that line, and it will not cost a cent. And further, you will not be required to say "thank you," but will be just as welcome to it as if you had taxed Uncle Sam's full capacity with your letters of thanks.

I thank friend Crum for his good words. I have that magazine, the one containing his article, locked in my safe and propose keeping it there. May the lights and shadows of your lives be so delicately blended that in the developing there may be revealed to the world a picture of most wonderful beauty, with strong, snappy, crisp highlights, but soft, delicate and silky shadows, with the halftones and middle tints running through and between in such even gradations that when the picture is finished and ready for delivery, may all the hosts of mankind look and exclaim: "'Tis a thing of beauty and a joy forever."

Photographing The Children

By S. S. Webb



With Illustrations by the Author



HAPPY CHILDHOOD DAYS

TRYING to photograph children, trying to make pleasing pictures of them, is not the easiest thing in the world. I know, because I do a lot of it; that is, I do a lot of trying. Children are naturally graceful, one does not have to contend with the almost persistent awkwardness of the adult, but there are other difficulties to overcome. They do want to see just how the picture is taken, and they are so full of life and action that innumerable good poses escape the shutter. And then, a child is not always at its best if the surroundings are too obtrusive or too distracting. The child should be pictured as engaged in some play or action that is typical of childhood, yet the setting for the picture should be as free as possible from unnecessary accessories. I have often photographed a small boy friend, busy with what he calls his out-door carpenter shop, only to find

a picket fence, the boarding of the house wall, and other jumbled material, more prominent in the picture than the real subject, the boy. Not until I had constructed for him an entirely new "shop," one having a background of deep foliage and the bench and tools as simple as possible, was I able to secure a picture that was satisfactory.

CAMERA CRAFT

I am always on the lookout for suggestions for pictures of the children. I find a great many in CAMERA CRAFT, and the drawings in the regular magazines and those classed as ladies' magazines, give me many good ideas, as well as showing me what constitutes good composition. It was these drawings, reproductions of wash drawings, that first taught me the importance of leaving out what was not required. When an accessory had been used, I found, by studying these illustrations, it had been done to help the composition, or to more clearly convey the intended idea. I found that backgrounds were not simply a matter of chance, they played a part in every case. They did not conflict with the subject, but served to make the subject or subjects take the importance they should have. A child feeding some chickens would not have a background of farm implements, porch steps and rubbish, all equally as sharp and twice as insistent as the subject. The background would be quite plain and quiet, either well shaded so as to give the lighter figure prominence, or slightly indicated as if out of focus. Children feeding their pets, holding an armful of flowers, a child with a kitten in its arms, hugging the old family dog, all these make good pictures, but their success depends not so much on one's skill as a photographer, as upon a little attention to the surroundings.

The children, as subjects, require practically no posing. Their natural positions are all that is wanted. Only in rare cases should they be allowed to look at the camera, and then only when one child is concerned. With two or more, they should be interested in their play, or in each other, as a general rule. The picture used at the head of this article is one of the exceptions. The



HER PET—BETTER THAN A DOLL

PHOTOGRAPHING THE CHILDREN



"THEY CAN'T FIND ME HERE"

picture of the little girl with the pet calf would have been better had the rule been observed. Snapshots should be made whenever possible, as the average child is a restless animal, always on the move. And besides, they should be taken when least aware of the fact; the results are more natural. I find it a good plan to equip my camera with a simple little trigger that makes a decided click when pressed, without having any action on the shutter. If this is snapped a few times as if pictures are really being made, the subjects get so they do not pay much attention to the camera and think it is great fun. Then, when the real exposures are made, they hardly give it any attention and continue in their play, affording new picture possibilities in rapid succession.

Take a child dressed in overalls and Dad's old hat, give him a big hand rake and some fallen leaves to work on, and pictures will result. At first he will be disconcerted by being followed about with a camera pointed in his direction, but if the photographer displays no great concern and clicks the imitation shutter device a few times he will soon forget all about that part of the play and enter quite heartily into the game of having his picture snapped while he is raking the leaves. Then comes the time for more care: the operator has had the advantage of the preliminary scouting for a good position and the best lighting and background, and pictures result. Without the preliminary dummy exposures the child is self-conscious and constantly on the watch for the first indication of a picture being taken: both fatal to good results.

And as to the work itself, the camera and equipment does not greatly matter. I would simply advise one to use the camera with which they are

CAMERA CRAFT

most familiar, the one that they can employ with the least concern, the one they use as they do their knife and fork. All thought must be given the subject. I have a friend who is quite successful with an 8x10 view camera used in the hand with a large, direct vision finder as big as a 4x5 camera, perched on top. Another uses a 4x5 box camera on a tripod fitted with a stay which enables him to quickly move it about without having to adjust the legs. It is all a matter of using what one can use with the least thought. I find an Instantaneous Isochromatic plate the best, as it gives better color values and gets more detail in shadows containing green foliage. In addition, it does not make those characteristic childhood decorations, freckles, so pronounced.

And as negatives of varying quality must result from this class of work, developing papers are the most practical. All good brands are made in a number of emulsions so that one can find a grade to suit practically any printable negative. Cyko, for example, is made in four speeds; blue, yellow, brown and red label, so that one can, with a supply of each kind, suit any negative he may have. I do not throw away any prints that come out too dark, holding them until I have a number on hand and then use them for sepia, which last bleaches them and brightens them up, making good prints thereby.

In conclusion I would advise my fellow amateurs to give more of their time and attention to child photography. They can, with these charming little subjects, make just as artistic and pleasing pictures as they can with lanes, creeks, and the like; and, a few years later, when a picture of Smith Creek or Brown's lane has but little interest, except as a successful composition, the picture of Walter or Clara, taken with all the charm of childhood's happy days, will often have a value not easily estimated. And, in addition, the one who loves children will find the work much more interesting and any success much more gratifying, I feel quite sure.

The Artist

Nothing the greatest artist can conceive
That every marble block doth not confine
Within itself; and only its design
The hand that follows intellect can achieve.
The ill I flee, the good that I believe,
In thee, fair lady, lofty and divine,
Thus hidden lie; and so that death be mine,
Art, of desired success, doth me bereave.
Love is not guilty, then, nor thy fair face,
Nor fortune, cruelty, nor great disdain,
Of my disgrace, nor chance nor destiny,
If in thy heart both death and love find place
At the same time, and if my humble brain,
Burning, can nothing draw but death from thee.

—MICHAEL ANGELO.

(Translated by H. W. Longfellow.)

My Treasures, My Portfolios

By F. Belmont Odell



Illustrated by the Author

They are filed away with other cherished things, treasured for the memories they recall, a vivid, truthful account of my progress toward pictorial perfection, the story of my early trials and later achievements, the wobbly trail from Browniedom onward, the digressions into the little by-paths of the craft, the record of my photographic faults, my portfolios.

Musing over their pages I am both cheered and saddened by the recollections of almost forgotten events, nondescript prints, freakish and grotesque, frantic jabs at art with fantastic results, buildings leaning like the Tower of Pisa and genres with every thing in the picture huddled up in the exact mathematical center. One print is titled "Black Beauty." I cannot recall, after all the years, whether Black Beauty was a cow or a horse, and from this picture I am inclined to think it was neither.

The landscapes were made in utter disregard of grace, space or balance. It required stacks of failures to teach me what I should have, by instinct, known at the outset. Landscapes with less than three planes are not worth the name. The foreground is the entrance to the picture; the distance from it to the back-



THE WOODLAND PATH

CAMERA CRAFT

ground helps the imagination to lay the field out flat instead of standing it up like a wall. Nothing should be allowed in the foreground that will impede the eyes' journey to the region of the middle distance. Entering by the foreground the vision should, by lines as well as light and shade distribution, be coaxed to the principal object—the excuse for making the exposure. The sight should find a resting spot to dwell upon before making its exit out of the picture via the background. As the living, pulsing part of a picture is the middle distance, so is the eternal portion consigned to the background. The prose of pictorial beauty is in the picture proper; the poetry is in the background. That which, like the strains of music, sets the imagination a-tingle and wafts us to the borderland of ecstasy, is the subtle atmospheric mystery of the background.

I turn the next page slowly, reluctantly; it bears a print of "Buster" building a tiny block house on the kitchen floor—his once favorite pastime. His curly hair glints in the rays of light as his chubby hands clumsily build the structure which totters to the floor only to be rebuilt again. The wealth of the world could not buy this little picture of our boy. He struck a fat pink finger in my lens and said: "Take picker!" I'm glad I did that day, for within a week Buster was,—a fellow ought never to wait too long, anyway.

This next album, the rustic one, has written on its front cover, "Nature Book." It smacks of the woodlands and bristles with meadow and forest lore. The woodsy fragrance of pine cones seems to permeate its pages and the echo of chattering chipmunks and the booming snipe resound in my nature book.

"Still Life" is brimming with studies of flowers, plants, ferns and fungi of my native State. Browsing between its covers I seem to live over again those boyhood days with rambles in cool, woodsy places, in the marshes and on the hillside, in search of specimens.



THE BROOK IN MARCH

THE BEAUTIES OF NATURE



WINTER IN THE WOODS

A camera is a companion; a portfolio is a friend, and more, it is chronological history of the journey through life with illustrations of the beautiful things seen and felt on the way. While the camera furnishes recreative diversion from business and directs the disposition of our spare time into wholesome channels, the portfolio is the concentrated nectar of the mystic craft.

The Beauties of Nature

I sometimes think that a great deal of stuff is both written and talked about the beauties of nature. By this I do not mean for a moment that nature is less beautiful than is supposed, but that many of the rapturous expressions one hears and sees used about the enjoyment of nature are very insincere; though it is equally true on the other hand that a great deal of genuine admiration of natural beauty is not expressed, perhaps hardly consciously felt. To have a true and deep appreciation of nature demands a certain poetical force, which is rare; and a great many people who have a considerable power of expression, but little originality, feel bound to expend a portion of this upon expressing an admiration for nature which they do not so much actually feel as think themselves bound to feel, because they believe that people in general expect it of them.

But on the other hand there is, I am sure, in the hearts of many quiet people a real love for and delight in the beauty of the kindly earth, the silent and exquisite changes, the influx and efflux of life, which we call the seasons, the rich transfiguring influences of sunrise and sunset, the slow or swift lapse of clear streams, the march and plunge of sea-billows, the bewildering beauty and aromatic scents of those delicate toys of God which we call flowers, the large air and the sun, the star-strewn spaces of the night.—ARTHUR CHRISTOPHER BENSON, in "From a College Window."

The Street Case

By Art Alain, I. P. A. 249



Illustrated by the Author

There is one important connecting link between the public (and that means the public's patronage and the public's good cash), and the professional photographer who is desirous of earning some of that cash. That link is the showcase the photographer places before the public as they pass along the street. If the grocer placed some spoiled fruit and dirty looking edibles in his window, you would hardly jump to the conclusion that the goods he handed out to his customers were above reproach. Go down the street, walk around the block, and study the business places of the men in other lines than your own. You will find the successful ones are giving their window displays the greatest care and attention. They are keeping them clean, simple, and attractive; seemingly without regard to cost, either in money or labor, even to the sacrifice of the goods themselves.

Your street case is your introduction to the public, your card to the passers-by. It is your means of attracting their attention to your capabilities for supplying their wants in the photographic line. It must be made to give them, instantly, a good impression, a strong impression of your work, your styles, your talent for posing, lighting, and getting a natural expression. If the display does not do this, you are losing money through your own



THE YOUNG LADIES LIKE VARIED POSES

THE STREET CASE



"SOMETHING DIFFERENT" APPEALS MORE THAN "ART"

negligence. Even if your work is not up to the standard of the masters of the art, you can keep the case and its contents clean and neatly arranged; and, above all, change the contents, change it as often as you are able,—and be able. Do not let it get rusty looking and hung with cobwebs, as some cases I have seen. Clean it up and change the pictures; you will notice an immediate change in the amount of trade.

Ideas as to the making up of a street display are varied, but they all come to the same thing; the showing of one's work so as to attract the public and get its trade. In order to sell anything you must first get the interest and attention of the possible purchaser. This secured, you must create a desire for the thing to be sold. Bear this in mind and use your display case accordingly. Some display only a few samples of their work, others fill the case so that it is crowded. I believe the best plan is to alternate the two kinds of treatment. When you come to show a large number of samples, do not fall into the mistake of making the display confusing by using a large number of styles, sizes and colors. One week, show three pictures, all children, or all the same kind of subject. Have one a dainty vignette, small in size; another about cabinet size, a good sample of your regular style, and a third, a small bromide enlargement, framed close, with a neat, narrow moulding. The next week fill the case with all it will hold of some popular size and style, all alike except that the subjects are different. The third week, show perhaps six pictures; three on one side finished in sepia, with the other three exact duplicates, except that they are black and white. It is an easy matter to ring the changes if the work is given a little thought.

It is, of course, impossible to lay down rules or give definite instructions. Each photographer must be the judge of his own case, and he should know, better than anybody else, his people and their tastes. The size of the street case makes little difference. Too small a one may escape the notice and too large a one make the work of changing its contents too expensive. But the contents must be changed. If pictures were ordered by the people who see

CAMERA CRAFT

your display for the first time, the importance of changing the display would be greatly diminished; but pictures are not ordered that way. The customer who does come to you for your work has seen your display a number of times. If he has found the case, on successive visits, fresh and clean, the pictures displayed attractively, and a frequent change made, he has been impressed with your capabilities and he has been made to desire your work. If he has seen the same dirty old display each time, he has no doubt ceased to look in the direction of your case and has long ago made up his mind that he would have some pictures taken only when it became absolutely necessary.

There are other ways of making your case attractive than by showing your regular work. Very often one can secure two or three pictures, photographs, made by other photographers, of prominent people who are in the public eye at the time. These always attract attention as your people have only seen the rough half tones in the daily papers. If there is a fire or an accident in your town, get a good picture and display it. If you cannot get one yourself, some friendly amateur will often lend you a negative that will enlarge nicely. An occasional good landscape view, made in the vicinity so as to be easily recognized, will be found interesting. At rare intervals a well executed fake picture will please the public, create talk, and give an impression that you are master of your craft. A very pretty window or case can be arranged by using seasonable flowers. I once saw a window lined with green felt and trimmed with holly and its red berries. Some green cardboard had been used for mounts and all the prints toned a decided red. The effect was very pleasing. The same photographer had, a couple of months before, filled his window with oak leaves and acorns, showing prints in sepia on warm brown mounts. It is needless to say, the photographer was doing a good business.



A Filing System For Exchangers

By A. A. Richardson, I. P. A. 2309



With Illustrations by the Author

Unless one intends to take the initiative there is no need of a filing system. I have been an I. P. A. member for over a year and not over half a dozen have addressed me before I wrote them. This is really an advantage because it allows one to select his exchanges as his time and tastes direct. Writing indiscriminately to the names listed from month to month gives one all the exchanges he can desire, but he will find some who are slow about making returns, some whose work may not appeal to him personally, and some who do not like his work. A better plan is to make experimental exchange with a few of the members who are renewing, and who, for that reason, have had some experience. Then, finding a part of these few making the class of work he likes, the member has simply to ask them who they can recommend. In this way the new member starts an endless chain that gives him only the class of work he likes and from members who are prompt in making returns.

My system of keeping track of exchanges is simply an adaptation of the card system. It is simple, exact and capable of endless variation. As used by me, it is not perfected, individual members can improve upon the plan to meet their own requirements. As the major portion of the members exchange prints of post card size, I arranged my system accordingly. I first got several hundred cards cut post card size. What is called bogus Bristol is cheap and well suited to the purpose. It comes in a variety of colors: mine being green, not because I am Irish, but because it contrasts strongly with the prints and stands out quite prominently. Then I got seventy-five red ones and twenty-five



A FEW INDIAN POSES FROM MR. RICHARDSON'S COLLECTION

CAMERA CRAFT

blue ones, much heavier and a quarter of an inch wider, $3\frac{3}{4} \times 5\frac{1}{2}$. The green ones carry the names of my exchanges, the red ones indicate different States and countries, while the blue ones are for miscellaneous guide cards. These cards, with the prints as they come in, are kept in a box about twenty inches long, four inches deep and a quarter of an inch wider than a post card is long. This can be made of thin wood or cardboard.

Make out one of the green cards for each member as you write him or as you hear from him. The example below shows how one should make out a card for me. The name of the town and State comes first, immediately below the member's name and any further address. In the opposite corner is the member's number, preceded by figures indicating the issue of CAMERA CRAFT in which the member's exchange notice appeared, in this case March, 1910. The N indicates that the member is a new one. If he appears on the list as a renewal, put an R in place of the N. If you get the member's name and address from another member, use that other member's number, in parenthesis, instead of the 3-10 N or like notation. It is also well to add the member's class number below his number, as shown. A check mark should be placed against each name in the magazine as it is copied onto a card.

<i>Benidji, Minn.</i> <i>A. A. Richardson, 910 Betrami Ave.</i>	<i>3-10 N. 2309</i> <i>Class 1</i>
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Having the desired members listed, one is ready to send out post cards or prints. At first, I sent out only one card to each name, but lately I have been enclosing two in an unsealed envelope, the two going for the same one cent postage on the envelope. As there must be no writing on the cards, when sent in an envelope for one cent, I have had a rubber stamp made, giving my name, number, address, and a request for exchange. My negatives all bear their own titles, so no writing is required. As these first two cards are sent. I record the date and the numbers of the negatives, this last to prevent duplication when next sending to that particular member. While my negatives are all numbered consecutively, I have picked out a selection of general interest, particularly for exchanging, and these are designated, a, b, c, d, etc. Consequently, should I send a card of a certain Indian dance on the 17th of September, the card devoted to that member would bear a memorandum reading: 17—10 a.

Having sent post cards to a number of members whose index cards have just been made out, a rubber band is placed about the bunch and it is placed in the filing box to await results. The red cards are used to separate the members in any given State from those in other States. They are inscribed at the top with the name of the States and placed in alphabetical order to await distribution of the green cards as exchange prints come in. The blue cards are used to designate special classes such as "Foreign," "Withdrawn," "No Good," and the like. When a reply is received from a

A FILING SYSTEM FOR EXCHANGERS



WEAVING



RESTING



HUNTING

post card sent out, the date of receipt is penciled on the upper right-hand corner of the back, in small figures. The member's green card is found in the box, placed on top of the exchange, and if not convenient at the moment, card and exchange prints are placed in the front of the filing box, in front of the State guide cards, to indicate that prints must be sent. When new prints are sent, note again on the back of the prints last received, the date and letter indicating what was sent in exchange. Then, by look-



INDIAN CHILDREN HUNTING

CAMERA CRAFT

ing at the back of any member's sendings you can tell just what you sent in return. With the prints sent in exchange for those received, put the latter and the green card belonging with them, behind the red card designating the State in which the member is located. As new prints are received from that member, and prints sent in return, put them behind the prints already received from that member. In that way, the last card or print from any member can always be found as the last behind that member's green card. If returns are not made promptly, always place the unanswered prints and the member's green card in the front of the box, ahead of the red State cards, until cards or prints have been sent in exchange. In that way they are a constant reminder that prints are to be sent. A good plan is to slip an ordinary wire paper clip over the upper edge of the unanswered prints, holding them together and still further emphasizing the fact that prints have not yet been sent in return for the last received. If a member withdraws or you do not care to exchange further with him, take out his green card and the prints with it, and place behind one of the blue cards in the back end of the box, marked "Withdrawn," or "No Good."

Working in this way, one will always have, behind the several red, State guide cards, only the prints and green guide cards of the live members to whom you are not indebted, but who owe you prints or cards. Once I looked through these and found several from whom I had not heard for months. To them, and to a few who had never replied to my first card, I sent a new card on which was stamped: "This makes two exchanges you owe me!" I got good returns from this reminder and occasionally get one at this late date.

I find the exchange of prints has been of great benefit to me. It has prompted me to improve the quality of my own work and I have received many beautiful examples of fine photography. I only wish I could spare more time for exchanging; but, making photography my business as well as my pleasure, my time is kept very fully occupied during most of the year.

In the first place, art, strictly speaking, whether in the book, the picture, the marble, or the coin, is not the thing said, but rather the manner of its saying.
—JOHN C. VAN DYKE.



The Merits of the Box Camera

By Avery Walter, I. P. A. 2514



With Illustrations by the Author



HIS MASTER COMES

ABOUT a year ago I became interested in photography and decided that the ownership of a camera would result in unlimited pleasure. I wrote to a large mail order house for a camera catalogue; and, upon its arrival, devoted some time to the selection of the instrument best suited to my use. At that time I knew nothing of firms dealing exclusively in photographic supplies. I finally decided it was best to start with a cheap camera, getting a better one

later if I found the use of one as enjoyable as I expected. A 4x5 Conley magazine box was ordered; and, while I have since found many subjects that were beyond the capabilities of this simple instrument, it satisfied my wants, and more. One must remember that while an elaborate outfit will do many things that the simple box camera will not do, the beginner will do a whole lot of things with the box camera that would turn out failures if he had all the adjustments of the better equipment to confuse and bewilder him. Remembering that, and telling himself that he does not care for fast trains, portraits in a dull light, and these fuzzy effects that some imagine are artistic just because they are fuzzy, the average amateur will find the simple box camera a pleasure and a delight. The fast moving train can be taken when it is standing still if one must have a picture of a train. The portraits can be taken with a flash if the light is not strong indoors, and the fuzzy pictures can be made by printing with a thin sheet of celluloid between the negative and the paper. With the box camera, everything is in focus from five or six feet from the camera, beyond. For the worker who wants good, plain pictures, this is an advantage rather than a drawback.

In order to obtain good pictures with the lens fitted to the cheap box camera, the day must be either bright or the air quite still; but, a windy day is rarely favorable for picture making with any sort of camera, and pictures made on dull days have so little contrast of light and shade that they are rarely pleasing.

CAMERA CRAFT

Personally, I find the best time for making views is in the fall when all nature seems to be at her best. The red leaves of the oak, the green of the pines, the varied colors of the maples, all combine to give quality and radiation that no camera enthusiast can afford to overlook. Spring also has her own particular charms. The colors are varied and the beauty of trees and foliage just breaking into leaf is very pleasing. The snow scenes that winter offers are also most pleasing. What makes a prettier picture than a small stream with its banks mantled in snow? One may be situated in a country where the natural scenery is somewhat lacking, but after a heavy snow the most commonplace objects take on a beauty well worth photographing.

As I spend most of my time on a farm I am somewhat interested in agricultural subjects. And there is where the simple box camera is more effective than would be a more elaborate outfit. It is always ready, there is no "focusing" to be done, there is no display of opening it out and setting a number of attachments. The subject does not become restless over the delay, the amount of preparation for the picture does not absorb his entire attention to the neglect of a natural pose. The camera user does not become so busy with the camera that he has little thought for the subject. The results are bound to be better just because the work is so much simpler. Even the beginner quickly learns to use the simple outfit almost automatically; in fact, he early learns to use it as he does a knife and fork, without thought. The result is that all attention can be given the subject and the best moment for making the exposure grasped. With a more elaborate camera the best moment is often allowed to pass while the worker is worrying with or adjusting the stop, the focus, the speed pointer of the shutter, the rising front, the swing-back, or some other arrangement. I know, because I have made pictures right at the side of older amateurs using cameras equipped with every possible adjustment.

The fixed focus lens of the box camera is slow for the simple reason that its largest opening is about the same as that of a fast lens with the opening stopped down to about the third or fourth number. It is the smallness of the stop that makes it of such universal focus. But this smallness of the stop makes the lens slow and makes good portraits indoors almost impossible. But outdoors, good full length pictures and small groups are easily made. In making such pictures, care should be taken to secure good backgrounds. If the subjects are posed with the sky or even an open space well lighted, behind the figures, the faces will come too dark. The background should be an appropriate setting for the figures, interesting without being obtrusive, satisfying without taking attention from the subject.

Home portraiture, however, can be accomplished by the aid of the flash. One has but to simply increase the amount of powder to make up for the slowness of the lens. My flash outfit consists of a simple hand lamp such as dealers have in several styles at a dollar or less. Small caps and the pulling of a trigger seem to be about as practical as one could wish. The flash should be made from a position well to the side, to avoid flat lighting and staring eyes. The firing of the flash from the position of the camera can only result in disappointment. A screen of light cloth placed in front of the flash will minimize the

THE MERITS OF THE BOX CAMERA



THESE PICTURES ARE EASY WITH A SMALL BOX CAMERA

objectionable dark shadows that sometimes throw the sitter into rather bold relief. The background should be simple, as the flashlight brings it more prominently than does ordinary room lighting. A lace curtain, with darkness outside the window, makes a good background if the pattern is not too pronounced.

In writing this little article it is not my desire to insist on the superiority of the box camera, with its fixed focus lens, over the higher priced camera or kodak. What I have aimed to do is to point out the merits of the simpler instrument, to show that it has a wider range than that for which it is generally employed. There is entirely too great a tendency to regard it as "only a cheap box camera," hardly worthy of serious consideration; but that is all wrong. Let the average worker look through a collection of his average work, the work that has really given him the most satisfaction, and ask himself just how each picture was taken. He will be surprised to find that nearly all of them were taken with the same stop, the same focus, the same exposure, the same disregard of swing-back and rising front, as would have been the case with the box camera. For those pictures, the box camera, with its simplicity of operation, has a decided advantage. One has but to realize that the simple box camera has its limitations, keep within those limits, and go his photographic way, congratulating himself that, within those limits he has an advantage over the possessor of a high priced outfit with its wider field of work.

The heart of man is never satisfied. We shall go on demanding illustrated books and papers, paintings to hang upon our walls, pictures spread before our eyes in the landscape, beautiful garments and jewels, beautiful temples, civic buildings, and homes; and the men and women who will produce all these in each generation are among the boys and girls in the public schools of the preceding generation. The character of the art which they will produce will depend very largely upon the amount of training they receive, and the extent to which they have been made familiar with what genius has done before them.—HENRY TURNER BAILEY.

STEREOSCOPIC DEPARTMENT

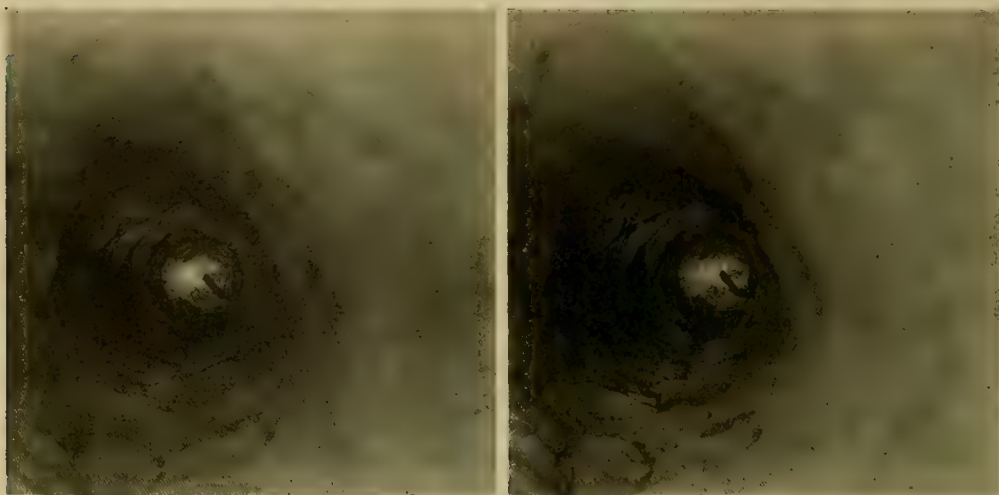
In Behalf of Stereoscopic Work

By E. J. Ulmer



With Illustrations by the Author

The accompanying stereograph is one of a series of historical views which I am preparing for the State Historical Society of Nebraska. Never do I consent to go on a summer's vacation or outing without my stereoscopic camera. Consequently I have a splendid series of over one hundred views of the Rockies in Colorado, a large collection of views of Niagara Falls, another of my dear old homestead in the mountains of Pennsylvania, besides a great number of local views, all of which will be more valuable to me as the years roll on. Last summer I camped with a party on the old historic highway, known as the Oregon Trail, in Nebraska. The picture accompanying this has been commented on in some of the local papers because of its uniqueness, and because of its great historical value. It is the picture of a well along the trail, used by the early emigrants to Oregon. It is the only well along the trail in Nebraska in such good preservation, and unless preserved, my picture of it will soon be all that can be seen of it; hence the picture is valuable. But, as you will readily see



AN INTERESTING STEREOGRAPH

By E. J. ULMER

IN BEHALF OF STEREOSCOPIC WORK

by looking at the reproduction, it would be without value were it anything else but a stereograph. When I had the picture mounted, I showed it to a girl of eight and asked her what it was. She at once replied: "It's a bonfire." When I laughed at her, she quickly corrected herself and said: "No, it's a rose." Then I told her to look at it through the stereoscope and she at once recognized it to be the interior of a well. As illustrating the perspective value of stereoscopic work, this is the most unique picture I have ever seen. As it is at the bottom of the page, hold it before the scope and see for yourself. Most of the views which I have taken of the Oregon Trail would be useless had I made them with other than a double-lens camera.

The increased interest in art is manifest everywhere in educational work. It appears in the public schools, in all the universities, institutes and in many private schools. Endowments are constantly made towards it. Libraries set aside rooms for its study. Lecture courses are instituted throughout the country to educate and at the same time to popularize the idea. Museums are increasing in number and the objects collected are now of great value. Municipal and State governments are all recognizing the need of expert advice in all matters of art. Clubs for its encouragement multiply. The cause for this almost universal desire for artistic things is to be found in the natural growth of the nation, the appreciation for fine achievement which begins the moment that material necessity is overcome. The United States is improving in its arts because it has reached the point in its progress where the arts are capable of development and each successful work will stimulate further endeavor.—C. HOWARD WALKER.



THE LATE SUPPER
F-11, 45 seconds exposure, four feet from 100 watt Tungsten light

By J. O. CARR

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

CLEANING TRAYS AND BOTTLES: A good way to clean trays and bottles of developer stains is by the use of the ordinary Farmer's reducer composed of hypo solution to which has been added red prussiate of potash. Vinegar and salt also accomplish the same result.—V. A. Wood, New Jersey.

A GOOD PASTE: Mix a small quantity of corn starch with enough cold water to make it liquid, and cook by adding boiling water. Adding a little glycerine will keep it soft, and a few drops of formalin will make it keep. Incidentally, if a negative be flowed with formalin for a minute, it can then be dried without fear of injury from the heat of a stove or other source.—Thomas D. Moore, North Carolina.

AN IMPROVISED LENS CAP: To make a lens cap, procure from a druggist a pill-box of right size (or a can cover of some kind) and cover the desirable half by gluing a round piece of velveteen or black cloth to the inside and a narrow strip around the inner edge. For appearance sake, the same may be done to the outside. In an emergency the focusing cloth may be used to cover and uncover the lens.—V. A. Wood, New Jersey.

KEEPING CHEMICALS: For some time my chemicals prevented me from doing my best work, as they would not keep in good condition for any length of time, even if kept in tightly corked bottles. Stock solutions, no matter how and where kept, were even worse, especially when months passed ere I could steal a little time for photographic work. Now I keep enough chemicals for a few doses of solution in small glass-stoppered bottles, one or two ounces, weighing out just enough for use each time and keeping the remainder stored away from the light in bottles tightly sealed with paraffine wax. My chemical troubles have vanished.—E., Montana, I. P. A. 2954.

GROUND GLASS SUBSTITUTE: Recently I made an enlarging camera complying to the article by J. Harry Millar in the May issue of CAMERA CRAFT. When I had the box completed I was anxious to use ground glass instead of the peep hole as described, but could not beg, borrow or steal a piece of ground glass and could not purchase carborundum powder with which to manufacture some. After considerable experimenting, I tried a piece of tracing cloth stretched over

PARAGRAPHS PHOTOGRAPHIC

and fastened to a cardboard frame and found that it made a very satisfactory substitute for focusing upon, taking proper precautions to see that the cloth was not allowed to sag.—H. R. H. Gee, South Dakota.

WRITING ON GLASS: To write on glass with an ordinary pen, use the following formula: Dissolve one dram of ordinary shellac in one ounce of alcohol and strain it through muslin. Next make a solution by dissolving one-half ounce of borax in one and one-fourth ounces of water. India ink or any finely ground water color is added to this solution as coloring matter, and then this second solution is added to the first, a little at a time, with constant stirring. There is a blue pencil on the market, made for writing on glass, which will answer for ordinary use and for projection purposes.—V. A. Wood, New Jersey.

BRIGHT BLUE TONES ON BROMIDE PAPER: Develop and fix as usual, then immerse in the following bath:

Iron alum	20 grams
Potassium ferricyanide	8 grams
Hydrochloric acid	25 minims
Water	18 ounces

When the desired tone is reached, remove and wash well.—Richard Russell, California.

TO INCREASE CONTRAST: Develop an unexposed plate in pyro until it is slightly stained; then fix and wash as usual. After it is dry, use it in front of a weak negative instead of going to the trouble of intensifying. I have tried it and like the results.

I think that any of the color-producing intensifiers could be used for the same purpose, but pyro is my favorite developer; and, after finding that many under-exposed films that I developed for friends were helped a great deal by the stain, I tried it, as described, on the unexposed plate.—William Mathison, Jr., Connecticut, I. P. A. 2525.

USING CLOUD NEGATIVES: When "printing in" clouds, be careful to see that the lighting is the same, that is, falls from the same direction in both the cloud and landscape negative. The secret of success lies in the selection of cloud negatives. A lake view with clear water and a sky clustered with dark rain clouds would hardly be a good combination. Light clouds are the easiest to handle, as the shadows are less pronounced. Cloud negatives must be taken of skies the horizon, as the clouds near the zenith are different in shape and not appropriate.—Richard Russell, California.

WHEN RETOUCHING PORTRAITS: In the retouching of home portraits, do not overlook the final softening of glaring spots such as usually appear in the corners of the eye or along the eyelashes. A few touches of a fine brush with a faint amount of India ink on it will do the trick and modify or eliminate the glare. Unevenness in retouching may also be evened in this way. Rub the moistened end of a piece of stick ink on the thumb nail of your left hand, it serving as your palette. Transparent dust spots on negatives may be touched out with the same brush and color.—V. A. Wood, New Jersey.

CAMERA CRAFT

DEVELOPING IN HOT WEATHER: The use of ice is all very well if one has a sufficient supply and some arrangement whereby the low temperature, once secured, can be maintained uniformly. A better plan, as I have learned by experience, is to add formalin, in small doses, to the developer. Formalin is a liquid containing forty per cent of formaldehyde gas, and can be purchased generally. For tank developer, about one minim to the ounce should be used; for paper, about double the quantity will be better. It can also be used to good advantage in the hypo bath in place of the usual acid and alum. Three to six minims of formalin to the ounce of plain hypo bath is about right. The bath will not stay clear more than a day or two, but hypo is quite cheap, and one is never quite sure what chemical changes are taking place in an old acid-alum fixing bath, particularly in hot weather.—Excel, Ohio.

ENLARGING WITH A STEREOPTICON: An enlarging apparatus may be made by those owning a stereopticon by removing the stereopticon lens and placing a camera, with back removed, against the lantern front. The negative is then inserted in slide carrier or otherwise, and the negative picture thrown against the side of a wooden box of suitable size, covered with a white sheet of paper. Against this a sheet of Velox paper may be pinned in position for exposure, sufficient light being allowed by interposing a sheet of ruby glass in front of the lens, or using a ruby glazed cap thereon. With electric arc light, using a small rheostat which may be connected with the ordinary incandescent socket, an exposure of from one to ten seconds is sufficient with open lens. Small negatives may thus be made to yield beautiful enlargements of any desired size. For larger negatives a large pair of mounted condensers fastened inside a reasonably light-tight box, and against opening of nearly the same size, would answer the same purpose as the stereopticon if the arc lamp is mounted in proper position to give a clear disc.—V. A. Wood, New Jersey.

CLEANING A LENS: When cleaning a lens, clear, tepid water only, should be used. Indeed, one manufacturer states that the surfaces should be moistened in no other way than by breathing upon them, and also that the use of leather should be avoided. By "leather" I conclude that he means chamois skin. Above all, use no cleaning preparations or acidified solutions, the advice of certain manuals to the contrary notwithstanding. When cleaning, use one corner of a soft linen handkerchief or rag which has been dipped in the water and wrung dry as possible. Dry by using a portion of the handkerchief which has not been dampened. If the moisture on the surface is allowed to dry before the dry portion of the handkerchief is applied, it will probably be found that the surface is streaked and hard to clean without exerting excessive pressure. In this case the surface should be moistened again. When drying, it will be found that quite a little pressure is necessary to produce a perfectly clean surface, and to keep this pressure uniform and minimize the danger of scratching, care should be taken to closely follow the curve of the lens surface being cleaned. Also change frequently to different parts of the handkerchief to prevent any dust which may have been taken up by the handkerchief before the surface is completely dried, from scratching the lens. Motion of the fingers should be in a circle.—D. A. Tyrrell, California.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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Are We Not Asking Too Much?

The usual argument advanced in favor of amateur photography is one that emphasizes the value of the pictures the camera makes possible, the records of scenes and events that are passing, the value of home pictures as the years roll on, the cultivation of an appreciation of art. Or, again, photography is advised as a study that will give one a means of livelihood that can be made use of should it become necessary or advisable for that purpose. But let us assume that there is nothing in either of these arguments, that the products of the average amateur's camera has no value, and that photography as a means of livelihood is hardly worth considering. Of course, such is not actually the case, but isn't it asking rather too much of photography as a diversion or a hobby to ask it to rest its case upon such claims? Would it not be rather difficult to prove to a Missouri mind that the average amateur photographer's productions were worth their cost in time or money, or that his capabilities as a photographer could be relied upon to earn him a livelihood in case of necessity? It would be much more consistent to advance photography as a means of training both the mind and the hand. Photography, as an educator, stands unrivaled. It brings out and encourages the best and most useful of the mental qualities that all possess. Following it cannot do otherwise than cultivate an appreciation of the beauties of nature in any individual, simply because one is forced to see, to see the clouds, to see the water, to see the trees and vegetation which make the earth so beautiful. Using a camera teaches exactness and cleanliness, encourages methodical and systematical treatment of problems presented, and stimulates observation and judgment. It practically compels at least some small knowledge of optics and chemistry, creating an interest in physical science as can no other like pastime or hobby. As an incentive to mental and manual education, a camera has no equal. And in asking for the recognition of photography as a worthy diversion, hobby, pastime, or what we may, cannot we do it on a more consistent basis than on the grounds usually presented for consideration? I think we can.

How We Feel About It

In December we send out a larger number of expiration notices than in any other two months of the year. Some simply ignore these notices, while others who wish the magazine discontinued are kind enough to write and tell us why they believe our publication is not just what they require. Of course, the major portion of these notices bring the subscriber's prompt renewal, but we

CAMERA CRAFT

frankly admit that there are a few who do not renew. But to come back to those who are kind enough to write, several of those doing so during the past month expressed themselves as feeling the necessity of something a little more elementary; and in one case the writer took us to task for not furnishing matter of a most elementary character; our failure to do so seeming to him to show our desire to favor our older readers rather at the expense of the newer ones. This is an idea that is entirely wrong. It is not our aim to compete with the text-books on photography. One can, for twenty-five cents, secure a book that will practically exhaust the subject of photographic practice as far as is necessary for the making of a satisfactory negative and a good print therefrom. That is, such a book will, if mastered, place any beginner at a point where any article in our pages will be understandable and helpful. As we see it, our field lies in the direction of supplementing these text-books and treatises by the publication of the experiences of practical photographers, the helpful suggestions they have to offer, the result of research and experiments, descriptions of new methods, new processes, and the like. A magazine made up of elementary instruction, presented piecemeal and serially, might appeal quite strongly to a very few who happened upon the first issue just as they were buying their first camera. Such a plan seems very attractive to some editors of publications of general circulation. Such editors assume, possibly, that none of their readers are acquainted with photography, but that they will, upon the announcement of such a series, at once purchase a camera and apply the information that is dragged along, more or less in its proper rotation, through a number of issues. Our readers can easily understand why it is impossible for us to assume any such situation in regard to our own subscribers. And, besides, we have no desire to charge any reader, even if he be a rank novice, ten cents per copy for a magazine containing, as far as he is concerned, only such matter as would make a chapter or less in a book costing twenty-five cents in its entirety. Any subscriber, either present or prospective, who feels that our magazine is too advanced as to subject matter can easily overcome the difficulty by buying one of these small photographic hand-books, several of which he will find on the shelves of any enterprising photographic dealer in the land.

Mr. Willis Here

The demand for the Folmer & Schwing line of cameras, particularly the popular Graflex, has become so great on the Pacific Coast that H. P. Willis has left Rochester to locate in San Francisco, and give the business in California, Washington and Oregon, his entire attention. Mr. Willis is thoroughly familiar with the operation and construction of the Graflex and Cirkut Cameras, and understands thoroughly the technique of photographic lenses. His knowledge and experience will be at the disposal of photographers here, and he will be ready to afford any assistance possible. We feel sure that his location here will be appreciated, and that he will make a host of friends for both his firm and himself.

Nothing right can be accomplished in art without enthusiasm.—SCHUMANN.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Optical Glass

Just over a hundred years ago, a native of Switzerland, Pierre Guinand, discovered a method of stirring molten glass, and thereby started the brief history of our modern lens. It was retold in a very able and, at the same time, a very popular way by Dr. W. Rosenhain, this year's Traill-Taylor Memorial Lecturer. Why is not ordinary glass—the glass of our windows and tableware—available for cameras, telescopes, and microscopes? In the first place, and vitally, because of its lack of homogeneity. Although to a superficial inspection it may appear to give a true image, it is in reality full of striæ, due to the dissimilarities in the liquid glass at the moment when it was left to solidify, either in the sheet or the mass. The striæ, or veins, the presence of one of which is sufficient to ruin a piece of glass optically, are formed owing to the different densities of the liquids employed and, consequently, their different indices of refraction. The liquids do not mix completely at once, and the threads of one are projected into the other. They are got rid of by sufficient stirring, and this stirring is the fundamental fact in the production of optical glass. As a direct outcome of Guinand's discovery, we have the establishment of optical glass manufacture at Chance's, in Birmingham, and also the great development at Jena by Schott and Abbe.

After dealing with the methods of examining glass for striæ, the detection of internal stresses by means of polarized light, and the avoidance of such stresses in glass-making by means of a cooling process which only involved a fall in temperature of one or two degrees per day, Dr. Rosenhain passed to another differential factor between ordinary and optical glass, namely, the presence of color. It was necessary that optical glass should absorb as little light as possible. Ordinary plate glass was vividly green; and although a fragment of optical glass might appear to be free from this color, if one were to see it in the lump it would show a very evident tint.

Unfortunately, some of the new Jena glasses were particularly sensitive to color effects from which ordinary crown and flint glasses were immune. But this slight tinge of green was not of the slightest importance to lenses. By the time they were cut down to the requisite thinness, the amount of light absorbed by that green color was negligible. Nevertheless, there existed a strong prejudice against the presence of green, and, most mistakenly, it had driven some glass-makers to use a decolorizing substance of a complementary nature which certainly neutralized the green, but, on the other hand, introduced a slight pink or brownish tint, which was more objectionable.

The hardness and durability of the glass, said Dr. Rosenhain, was a point equally important for the lens maker and the lens user. The modern glass, with its extreme optical properties, tended to become over-sensitive. It departed from those conditions of manufacture which resulted in the production of the most stable properties. It became readily susceptible to injury. Exactly where the line was to be drawn must be determined by each maker of lenses, and, to some extent, by a consideration of the purposes to which they would be put. It was desirable, as far as possible, to protect the more delicate lens components by putting them on the inner side of the combinations, but even then certain atmospheric influences made themselves evident. And very frequently the most sensitive glass was put on the outside. Again, if the surfaces of these fine lenses were damp, it was inadvisable to rub the damp away. It might sound paradoxical, but the glass should be rubbed over first with a damp cloth, because some of the decomposition products which formed on the surface of such glass were crystalline in character, and would readily scratch the surface. If these were washed away with water first, the surface could be polished clean, without suffering so much injury as it would receive from a dry rubbing.

In dealing with the purely optical properties

of glass, its refractive index, and the narrow limits of some of its optical constants, as compared with those of such a mineral as fluorite, Dr. Rosenhain referred particularly to the tendency of glass to crystallize and its sensitiveness to atmospheric agents. He believed that it would be possible to have in practical work material of higher optical properties, but this material would not be glass at all. Development in this direction was upon the lines of the artificial crystals manufactured from various minerals possessing the required optical quality. He had himself succeeded in producing a few crystals of calcite. They were small, but they were produced quite smoothly and regularly. If such work as that were undertaken, he believed the ultimate results would fully justify it, and the power of our optical materials would be extended, and even more than doubled.

Dr. Rosenhain then gave a graphic picture of the making of optical glass. The raw materials employed were all of the purest possible kind. The sand, the carbonate of lime, of soda, and of potash were all as fine as they could be. Every particle of impurity was sifted out. The making of the melting-pot of fire-clay—a vessel of beehive shape—was an important business, and, with the long period required for its proper drying, extended over many months. The melting furnace was then constructed, and the pot, which had previously been heated in another furnace, placed within it. A certain amount of broken glass or cullet was thrown in to protect the pot from the corrosive action of the materials presently to be introduced, and, finally, the raw materials were shoveled in gradually until the pot was full. The serious business of melting then began. The heat was the highest that the glass would stand, frequently the highest that the furnace itself could endure. After twenty-four or forty-eight hours, a "proof" was taken out, and found to be full of bubbles, which, however, after a few more hours of melting, disappeared.

The subsequent processes were many and involved. The glass was skimmed, was allowed to cool, was heated up again, was stirred as already described, was resoftened in the furnace, was again cooled in the open air, chains of irons being laid around the pot to prevent it from falling to pieces, and, finally, after other re-heatings and re-cool-

ings, was broken up, when the obviously bad pieces were rejected at once. The best pieces were placed in the kiln and moulded into cakes, or blocks, or discs, and then, the end pieces being ground flat and polished, it was possible to conduct a careful examination. The average yield of glass which was salable out of the melting was rarely as much as one-fifth of the total mass. This great wastage, together with the expense of making the pot, which, unlike the one used in the making of ordinary glass, was only available for a single melting, might account, said Dr. Rosenhain, for the relatively high price of optical glass. It was evident from what he had said that the price of the glass must rise very rapidly the larger the surface required. Thus very large lenses were exceedingly costly; but he had no doubt that, if it were worth while, lenses of any desired size could be made.—*Amateur Photographer.*

Alum or Formalin?

The two hardening agents that are used to any extent by photographers are alum and formalin, and the advantages of the latter are so great that it is curious to find that it has not entirely supplanted alum. The writer is convinced that it would have done so, were these generally realized, or rather were the drawbacks that attend the use of alum appreciated.

The need of any hardening solution in this country is very limited. Certainly it is never wanted in negative work on the best commercial plates, unless they have to be dried in a great hurry by means of heat. In warmer climates things are different, and without some such device, either the plate would frill or blister, or the coating would melt or become pitted during drying.

The case of prints is different. A very large proportion of the prints now made are given a glossy surface by being dried in contact with glazing sheets, ferrotype, glass, etc., and if the coating on the paper has not been properly hardened before squeegeeing there is a great likelihood of trouble from the prints sticking. Moreover, in the case of printing-out paper, especially in warm weather, the coating on the paper becomes very soft and tender—a fact which is particularly noticeable when a toning bath containing sulphocyanide is used. Here, again, a hardening solution is a necessity.

The use of a five per cent solution of com-

A PHOTOGRAPHIC DIGEST

mon or potash alum for hardening purposes exposes the prints to a very serious risk of fading. It is well known that alum and hypo react on each other, mutually decomposing, and forming various complex sulphur compounds, which are amongst the most harmful things, from a permanency point of view, that any silver print, printing-out paper, bromide, or gaslight, can obtain. Only when, as in the case of hypo-alum toning, the picture is left in a form in which sulphur no longer attacks it, should alum and hypo be brought together in the print. It follows that either the alum must be applied and the prints thoroughly washed before fixing, or else, after fixing, the washing must be thorough before the alum is used. These conditions are not always easily fulfilled.

In the case of prints that are to be squeezed, when the hardening agent is not required for any other purpose than to prevent them from sticking, alum may be used. The prints must first be freed from hypo completely, then immersed for two or three minutes in the alum solution, and must then be again washed in several changes of water to get rid of most of the alum.

If formalin is used, there is much less trouble. There is no need to wash out all the hypo before putting the print in the formalin. No harm is done if the formalin bath is inserted into the series of washings at quite an early stage. It may even directly follow the fixing, the prints not being so much as rinsed. It is most conveniently applied, however, after the washing is finished, when the prints may be put into the formalin (one part of formalin to nine parts of water) for a minute or two, and then either rinsed once or put up to dry as they are. It is best never to squeeze the prints at this stage, but to let them get quite dry and then to re-wet and squeeze them.

There seems to be a positive advantage in not washing them to any extent after the formalin; the hardening action seems much more complete, although, as formalin is very volatile, there is not likely to be much left in the dry print, except what has entered into combination with the gelatine.

But with formalin, there are other advantages also. If the weather is warm, and the toning bath is likely to soften the coating on the paper, the formalin may be applied before toning. The prints should be washed in two or three changes of water, then placed in a

formalin bath of the strength just mentioned for two or three minutes, and then the washing may be completed. It is well to give a little more washing than usual before toning, on account of the action of the formalin on the coating on the paper, but any traces of formalin in the print when it is put into the toning bath will do no harm. Any alum in such a case would lead to irregular action of the toning solution, unless it had been washed out altogether, which would take time, and in warm weather especially, long soaking is injurious to the prints.

In the same way, the formalin bath may be used after toning and before fixing, if there is any necessity for it, merely giving the prints three or four changes of water after toning, before putting them in the formalin. From the latter they may be transferred direct to the hypo, without washing.

The use of a hardening agent with negatives is governed by the same rules, except that it ought very rarely to be necessary at all. In the case of celluloid films, if the hardening is carried too far the gelatine may strip from the celluloid. There is little risk of anything of the same kind happening with plates.

The best time to apply the formalin to negatives is immediately after fixing.

There is one thing to be noted in this connection, and that is that just as alum and hypo react on one another, so do formalin and sodium sulphite, and the presence of formalin in either a negative or print the pores of which are filled with any developing liquid containing sulphite—and practically all the developers now in use contain it—is most likely to lead to fog. If the climatic conditions are so severe that the plates will not even stand development without frilling, they may be put into a formalin bath straight away, and after two or three minutes in this be given several changes of water to get rid of as much as possible of the formalin before pouring on the developer. All that, of course, has to be done in the dark.

There can be no doubt, from what has been written, that for all hardening purposes there is a great advantage in the use of formalin. The strength of the solution has been given already. It is best diluted as required, and there is no need to use more than enough of the liquid to cover the prints or the plates fully, if what is used is made up freshly as wanted and after use is poured away. If the

same solution is used over and over again an ample quantity must be employed to make quite sure that the hardening is complete, and the other course, besides avoiding risk of introducing impurities into the solution with the old formalin bath, is perhaps the more truly economical.—E. T. Coupe in *Photography and Focus*.

Black Spots on Autochromes

I was recently asked by a professional worker in autochromes as to the best means of dealing with black spots. My own method had been in the past to touch the spots with the ordinary bleaching solution for making sepia bromides on a camelshair brush until they disappeared. If the bleach spread too far a drop of developer on a brush restored the silver where wanted. A touch with a little hypo bath then removed the bleached spot entirely and the film, on drying, could be spotted to match the ground color. Lately I have found that in many instances a very good result is obtainable by simply bleaching the spot, washing one minute and touching the bleached point with a drop of the 2 per cent sodium sulphide toning solution. The resultant small spot of brown tint is rarely noticeable.—H. D'Arcy Power, M. D.

Thin Veiled Negatives

A correspondent recently asked us how to produce plucky lantern slides from thin veiled negatives, a question to which it is almost impossible to give a satisfactory reply. There is, in truth, nothing more hopeless for printing purposes than a thin veiled negative, and the only satisfactory procedure is not to attempt dodging methods in printing, but to tackle the negative itself. The remedy, of course, is to first clear the fog with Farmer's reducer and then intensify. Risky though such operations may appear to be, there is really less to fear than in attempting various printing dodges, the success of which can never be more than very small. The main secret of safe reduction is to soak the negative very thoroughly before applying the reducer. An hour's soaking is not too much, and half an hour should be looked upon as the minimum permissible. If the soaking is imperfect, or if the reducer is applied to the dry negative, uneven action will surely result.

Similar trouble will be met with if the film surface is at all greasy; therefore it should be carefully wiped with a pad of wool and every precaution should be taken to insure perfect cleanliness. After a thorough washing, the reduced and cleared negative may be intensified by any of the ordinary processes without any special risk. Very often the intensification may be followed by a second clearing with marked advantage. The trouble of thin, foggy negatives is a very prevalent one, and we have little doubt that it is owing very largely to the modern habit of dispensing with bromide in the developer. Given a quite ideal exposure, probably a developer without bromide may produce a perfectly clean negative; but the fear of under-exposure induces most workers to err slightly in the opposite direction, with the result that a little bromide is nearly always necessary.—*British Journal of Photography*.

Recording Sound by Photography

The daily papers recently have been devoting space to details of the method of recording and reproducing sounds by photographic means, worked out by Dr. Lifschitz, of Moscow. The method consists of the use of a minute mirror, reflecting a beam of light onto a band of sensitive photographic film which passes along past an opening in a screen. The mirror is attached to the diaphragm of a phonograph, so that vibrations of the diaphragm caused by sounds entering the horn of the instrument are recorded as a wavy line on the developed film. The film is printed onto another long strip by means of bichromated gelatine, so that the sound is represented by varying thicknesses of gelatine. This is then passed through a machine by which a stream of compressed air has its volume controlled by the varying thicknesses of gelatine, and in this way a series of impulses, corresponding to the original sound, are given to the compressed air, which thus reproduces the sound that was recorded on the film. The most striking difference between this method and that of the ordinary phonograph, as far as the results are concerned, is said to be the absence of the scratching and metallic sounds, known as secondary noises, from which even the most perfect phonograph is not entirely free.—*Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

About Making Flashlights

First of all, use plenty of powder, regardless of what the manufacturer says about his powder being so much stronger than any of the others. I have seen a good many flashlight pictures and I have only seen one that was overtimed. Some day I will find another one, and when I do I will remove some of the emphasis from the advice next given. Then, always handle the powder with the greatest care. The powder is quite safe—and so is a flight of stairs, but there is a careful way, a right way, of using both. We hear, from time to time, the caution not to fire explosive powders, the ordinary flash powders, in a confined lamp such as is used for pure magnesium powder, but there is another form of “confined” condition that is responsible for many serious accidents. It arises as follows: A small pile of flash powder is arranged with some form of ignition device at the bottom, possibly a fuse leading in from the side. The cap is snapped or the fuse allowed to burn, yet no flash occurs. What really happens is that the condition of firing is still there, but the powder, particularly the kinds that are prone to rapid oxidation on exposure to air, forms an air-proof covering to the spark of flame and combustion cannot take place without air. The spark remains in the interior, feeding upon a small part of the chemicals added to the powdered magnesium to produce burning. The operator, finding there is no flash, concludes that the cap failed to go off or that the fuse ceased to burn, and goes over and disturbs the small pile of powder. A blinding flash results. Another flashlight accident that no one can explain. What really happened was this: The operator permitted sufficient air to enter the pile of powder to make combustion possible, and the spark at once furnished action. It was not waiting for the operator, but waiting for some air. And a suggestion as to portraits, and portraits are the main purpose of flashlight work, as indulged in by the amateurs. Do not place the sitter or sitters

against a white wall with the camera in the middle of the room. Reverse the positions. Put the sitter at a center table in or near the center of the room, place the camera where the right view is secured, and then fire the flash close to a white wall. The result will be good lighting on the subject, because the white wall directly behind the flash acts as a reflector, giving the flash the quality of a large sheet of light, and the sitter will be pictured as relieved against a well-modulated background that has quality and depth, not presented as if cut out of some thin material and pasted against a meaningless white expanse.

The Image on the Ground Glass

One of our correspondents writes to ask why an image appears on the ground-glass focusing screen of a camera, and why the image can be seen there and not upon a clear sheet of glass in the same position. At first glance, the query seems to be somewhat foolish, and to many the reason for the image so appearing may, at first thought, seem quite obvious. But is it? Before you read any further, just try to explain, in a few words, why the image is plainly visible on a ground-glass surface and not upon one of clear glass were it in the same position. If you have a few photographic instruction books at hand, look through them and see if you can find the information. And admitting that the matter is rather obvious, do not all of these same text-books go into full details concerning much more obvious matters? But returning to our correspondent's query, I will assume that he knows how and why a lens forms an image at a certain distance behind itself when facing any given object or scene. All the books explain that quite clearly; and I am also quite sure that this particular correspondent also knows the reason for the visible image on the ground glass. The image is formed, quite sharply, at a certain plane, and is there, although not visible, even if no glass surface, either ground or plain, is inter-

posed. It (this image) can be picked up at that plane and carried on to a new focal point by another lens or lens system. If a sheet of clear glass be placed at the plane where the image is formed, the image remains invisible simply because the glass is transparent. If an opaque screen were at the image plane or distance, the image would become visible, but, being opaque, the image would only be visible from the inside of the camera. In order that this image may be seen from the outside of the camera, the surface or screen interposed must be opaque enough to absorb some of the light, enough to give the image form, and it must also be transparent enough to allow this image to be seen from the opposite side. In other words, we must interpose a translucent screen, ground-glass being found the most suitable, although ground celluloid, tracing cloth, even a wet sheet of paper or dampened handkerchief answering in a pinch. It is hardly necessary to go into the matter any further except to explain that the surface of ground glass is made up of minute hills and depressions, these resulting in the presentation innumerable angles to the light forming the image. Such being the case, a portion of the light is absorbed, or, more correctly speaking, is caught and held by the multiplicity of varying angles presented. This effect is secured, no matter whether the ground surface or the smooth be presented to the lens, it being plain that the multiplicity of minute angles presented by the outer side of the ground-glass surface is duplicated in reverse within the glass itself as seen from the clear glass side. The ground-glass can be used with either side presented to the lens, the only requirement being that the ground surface itself comes into the same position as does the emulsion surface of the plate when the focusing screen is drawn back and the plate holder inserted in front of it. Some forms of quite compact cameras have the ground surface of the focusing screen on the outside and buyers sometimes write us to ask if this is not wrong, they finding such position differing from that occupied in some former camera of their own or some camera in the hands of a friend.

Exposures Without Jar

Percy D. Booth sends the following hint: Some shutters, and generally when the camera is fully extended or a telephoto combi-

nation is being used, are inclined to give a slight jar on opening and closing on the time notch. One friend has a reflecting type of camera that does this and another finds his simple box camera prone to the same fault, the opening and closing requiring two movements of a lever. One often wants to give exposures of one-fifth, one-half or one or two seconds, with no danger of this jar and consequent blurring of the image. To overcome the danger, I set my shutter for time, withdraw the slide and hold it in front of the lens, and then open the shutter set to time. When I am ready to make the exposure I raise the slide from in front of the lens and lower it again to give the determined exposure, closing the shutter after doing so. I used to waste many plates before hitting upon this plan, but since adopting it have not lost a single one on account of blur due to jar.

Seeing Stereoscopically Without a Stereoscope

Mr. Booth also writes that, having read about seeing stereoscopically without a stereoscope, I at once commenced to try doing so. I had a little difficulty in making the two pictures combine at first, but since I have learned the trick it is quite easy and I no longer resort to a stereoscope in looking at such pictures. The trick lies in simply focusing the eyes upon something a little behind the stereoscopic slide. At first there will be a strong tendency for the eyes to change their focus to the nearer distance as the slide is brought into position between the point the eyes are focused upon and the eyes themselves, but this can be overcome and the two images will gradually combine to form a true stereoscopic effect in the middle with a dim strip at both sides. A single lens camera sees pictures with only one eye, and therefore such pictures will have more stereoscopic effect if viewed with only one eye. One does not get the full stereoscopic effect, but one does get a partial effect much as if two of these similar prints were mounted side by side and viewed in a stereoscope. In this latter case the brain gets the effect of a single lens picture viewed with one eye, only the effect is intensified by being made doubly strong by using both eyes and two like prints.

CAMERA CRAFT

One may have contempt for a post card collection simply because they are "only postals," but those who have acquired a good post card collection find there is quite as much variation in the subjects as can be

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

Ask a member of the I. P. A. who has exchanged both photographic post cards and various sized photographs and he will very likely tell you that his post card collection is the most satisfactory.

Kansas—H. H. Gill, Hays City.
Mississippi—Joe C. Montgomery, R. F. D. No.
1, Box 36, Edwards.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Missouri—J. F. Peters, 6220 Berthold Ave., St. Louis.

New York—Louis R. Murray, Ogdensburg.
Oregon—F. L. Derby, La Fayette.
Tennessee—George Parke, 292 Madison Ave., Memphis.

Texas—Emmitt L. Lovett, Stamford.
Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

NEW MEMBERS.

3151—Walter L. Shaffer, R. F. D. No. 1, Tekonsha, Mich.
Class 2.

3152—L. C. Kenyon, Box 427, Cooper, Texas.
Class 2.

3153—John Timmons, Stamford, Texas.
Class 3.

3154—D. B. Brown, 9 Calder St., N. E. Valley, Dunedin, New Zealand.

4 $\frac{1}{4}$ x6 $\frac{1}{2}$, developing papers, and bromide, of lantern slides, stereos, and general landscapes, and views, all New Zealand; for lantern slides, stereos, and general views of other countries. Class 1.

3155—C. A. Drinkwitz, 2102 Orrington Ave., Evanston, Ill.
Class 2.

3156—H. C. Haynes, R. F. D. No. 2, Laurel, Ore.
Class 2.

3157—Fred C. Miller, Karthaus, Pa.
Class 2.

3158—Harry J. Fromm, 618 Marshall St., Elizabeth, N. J.

2 $\frac{1}{4}$ x3 $\frac{1}{4}$ and 4x5, printing-out and developing papers, of landscapes and genre; for anything. Class 1.

3159—M. S. Benedict, Box 480, Sidney, N. Y.
Class 2.

3160—Benj. B. Park, 102 N. State St., Painesville, Ohio.
Class 2.

3161—H. E. Wight, Towanda, Kan.
Post cards of general views; for the same. Class 1.

3162—Robert B. Bonney, R. F. D. No. 2, Woodburn, Ore.
5x7 and 3 $\frac{1}{4}$ x4 $\frac{1}{4}$, developing paper, of landscapes, animals, and photos; for the same. Class 1.

3163—J. E. Rose, Mayfield, Wash.
Class 2.

3164—James Dickey, R. F. D. No. 1, Black Creek, N. Y.
Class 3.

3165—M. C. Hollems, Marion, Iowa.
3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing paper, of landscapes, etc.; for marine and mountain views. Class 1.

3166—J. C. Helland, Galata, Mont.
Post cards, developing paper, of landscapes, rivers, mountains, and general views; for the same, also farm life scenes and views of general interest. Post cards preferred. Class 1.

3167—George C. Gilfillan, Lock Box 474, Cedar Rapids, Iowa.
5x7, developing paper, of figures and portraiture; for the same, also landscapes. Class 1.

3168—A. M. Johnston, Warsaw, Mo.
3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing paper, of scenery of town and bluffs; for the same. Post cards only. Class 1.

3169—Alvin G. Kimmons, R. F. D. No. 3, Manito, Ill.
5x7, developing paper, of scenes; for the same or anything of interest. Post cards only. Class 1.

3170—W. A. Maynard, Kingston, Mich.
Class 2.

3171—Henry Priest, 32 Judson St., Canton, N. Y.
Class 3.

3172—C. H. Brooks, Jr., R. F. D. No. 1, Box 17, Sharon, Vt. Class 2.

3173—L. O. Haskin, R. F. D. No. 4, Lebanon, Ore.
2 $\frac{1}{4}$ x4 $\frac{1}{4}$ and 4x5, developing papers, of general Oregon views and nature studies; for wild flowers, trees, forest, and general nature studies, unmounted. Class 1.

3174—H. L. Sadler, Box 724, Missoula, Mont.
Class 2.

RENEWALS.

161—F. W. Sutton, Peabody, Kan.
Post cards, developing paper. Desire to exchange a limited number of Green Velox. Class 1.

317X—J. C. Hegarty, Utahville, Pa.
3 $\frac{1}{4}$ x5 $\frac{1}{2}$ to 6 $\frac{1}{2}$ x8 $\frac{1}{2}$, developing papers, of landscape views made in various parts of the United States, also prints of historic interest. Class 1.

654—H. E. High, Box 72, Ellsworth, Kan.
4x5 and 5x7, printing-out and developing papers, of mountain scenery, street scenes, public buildings, etc.; for scenery, buildings, and industrial scenes. Class 1.

1248—J. C. Hawver, Box 214, Auburn, Cal.
Class 3.

1250—W. K. Crisp, Hampton, N. S., Canada.
Has very little time for exchanging, but any member wishing to exchange may write and will be accommodated if possible.

1684x—E. J. Howser, Wooster, Ohio.
Post cards only of landscapes, snow scenes, Niagara Falls, and other interesting subjects. Good work only. Class 1.

1980—Ansel Kisner, Catawba, W. Va.
Class 2.

2078x—L. Hanlon, Whangarei, Auckland, New Zealand.

On account of sickness, am unable to reply as promptly to my correspondents as I would wish, but will reply to all in time.

2146x—U. W. Tryon, corner Sargent and Summit Sts., Kendallville, Ind.

Post cards, 4x6, and 8x10, developing paper, of miscellaneous subjects of inland scenery, baby and portrait work; for good work only. Class 1.

2160—M. Rousselot, II, rue Nationale, Evian-les-Bains, France.
Class 2.

2164—Franklin P. Rockwell, Box 43, East Windsor Hill, Conn.
Class 2.

2220x—H. W. Terhune, St. John, Wash.
Class 2.

2408—Vesta C. Haney, East Lansing, Mich.
Class 2.

2638—L. C. Barrett, 1615 N. 7th St., Boise, Idaho.

3 $\frac{1}{4}$ x5 $\frac{1}{2}$, developing paper, of mountain and lake scenes, camping, street, harvest, speed, and various scenes; for anything of interest. Nothing but good work accepted; would like to exchange more with foreign members. Unmounted prints, but will exchange post cards if desired. Class 1.

2665—W. O. Lott, 2245 Hamilton St., Regina, Sask., Canada.
Class 2.

2701—W. M. Horsley, 931 Security Bldg., Los Angeles, Cal.
(Was 705 Wright and Callender Bldg.)
Class 2.

2725—P. P. Barlow, Como, Colo.
Will exchange post card pictures of Rocky Mountains and ranch life for pictures of interest. Class 1.

2733x—R. H. Appleby, 99 Center St., Santa Cruz, Cal.
Class 2.

2750—George A. Chambers, Box 44, McGuffey, Ohio.

4x5, 5x7, and post cards, developing paper, of marine, public buildings, local scenes, industrial scenes, and portraits; for public buildings, marine and local views, also portraits. Post cards only. Class 1.

2756—D. M. Boyd, Woodlawn Ave., Kirkwood, Mo.

Will be glad to exchange lantern slides, pictures or post cards. Class 1.

2768—Emmett L. Lovett, care Stamford College, Stamford, Texas.

2 $\frac{1}{4}$ x3 $\frac{1}{4}$, 3 $\frac{1}{4}$ x3 $\frac{1}{4}$, and 3 $\frac{1}{4}$ x4 $\frac{1}{4}$, developing paper, of scenery and local views; for scenery and anything of interest. Class 1.

2769—C. W. Jenkins, Lewisburg, Ohio.
Post cards for same. Good work only. Wish to make a landscape collection of all the States. Exchange, please. Class 1.

CAMERA CRAFT

- 2773—John L. Maloney, Box 56, Missoula, Mont.
Class 2.
- 2776x—L. A. Sneary, 2822 Espy Ave., Pittsburgh, Pa.
Up to 5x7, developing paper, of anything I can get before the lens; for the same of general interest. Prints only, no post cards.
Class 1.
- 2778—Earl W. Arlin, Rockport, Wash.
Post cards of mountain scenery; for scenery.
Class 1.
- 2779—W. A. Payne, 79 Beck Ave., Akron, Ohio.
3¼x4¼, 3¼x5½, and 4x5, of college scenes, landscapes, Rocky Mountain views; for marine views, mountain scenery or anything of beauty or interest. Class 1.
- 2786—Mrs. Franc Hagestead, Junco, Nev.
(Was Pronto, via Winnemucca, Nev.)
Class 2.
- 2792—Dr. J. R. Young, Box 515, Chico, Cal.
Class 2.
- 2801—L. O. Roden, Gorham, Kan. Class 2.
- 2826—John S. Tite, Box 182, North Cobalt, Ont., Canada.
5x7, developing paper, of landscapes, and general views; for the same. Class 1.
- 2917—J. A. Volzer, 1507 South Market St., Canton, Ohio.
4x5, developing paper, of local views; for the same. Post cards only. Class 1.
- 2942—R. C. Smith, 508 Elm St., Anaconda, Mont.
3¼x5½, developing paper, of mountains and lakes, camping and hunting scenes, winter landscapes, etc.; for scenery, landscapes, marines, or most any outdoor subjects. All sent and received on approval. Unmounted, trimmed prints only. Class 1.

CHANGES OF ADDRESS.

- 1806—Robert Ritchie, Boissevain, Man., Canada.
(Was Graham, Canada.)
- 2247—Ira A. Moore, Varina, Iowa.
(Was Fonda, Iowa.)
- 2758—Robt. J. N. Parker, Avalon, Va.
(Was East Hampton, Long Island, N. Y.)
- 2887—W. W. Lyman, St. Hilaire, Minn.
(Was Aetna, N. D.)
- 2897—D. W. Labelle, 13 Leach St., Detroit, Mich.
(Was 525 8th St.)
- 2923—W. S. McCollester, 1742 Prospect Ave., Santa Barbara, Cal. (Was Goleta, Cal.)
- 3066—Cloe K. Ferris, Waldo, Fla.
(Was Oak Harbor, Wash.)
- 3102—P. Austen, Calvert, Ala.
(Was Pushmataha, Ala.)
- 3115—L. M. Pierce, 196 N. Chamber St., Galesburg, Ill.
(Was St. Joseph, Mich.)
- 3163—J. E. Rose, Swofford, Wash.
(Was Mayfield, Wash.)

WITHDRAWALS.

- 2121—Minnie Mendenhall, 126 N. Friends Ave., Whittier, Cal.
On account of lack of time.
- 2285—C. A. Holman, Dredge 83, Gatun, Panama.
Will be unable to exchange for a time on account of traveling and uncertainty of address.
- 2347—Mrs. Harold Jones, Bozeman, Mont.
On account of lack of time.
- 2563x—Nathaniel Mortonson, 806 High St., Marquette, Mich.
Will be unable to exchange during the winter months.

OUR BOOK SHELVES

A Captain of Raleighs

In this book, the author, G. E. Theodore Roberts, has given us a fine pen picture of a time and location full of interest to us all. The sparsely settled coasts of Virginia, with their few white inhabitants, bands of Indians and harbors of refuge for English and Spanish pirates furnish a rich background for this typical Roberts' tale. The picture of this wilderness is a thrilling one and the accompanying incidents are just as exciting. The story gets its title from a brave seaman, whose devotion to Sir Walter Raleigh was so great that when Raleigh fell into disgrace and suffered degradation and death at the hands of an ungrateful crown he destroyed the English colors on his ship, ran up the black flag of piracy and levied tribute from all ships flying the British colors. This sailor is in the forefront of many an exciting scene, and, together with Elizabeth Duwaney, the beautiful daughter of the English governor of a primitive Virginia settlement, holds the stage much of the time. The



story is a good one and exceptionally well told. Published by L. C. Page & Company, Boston. Cloth, gold. Price one dollar and twenty-five cents.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Dependable Work

Special attention is called to the advertisement of the Henry Passavant Company on another page. The firm bears an enviable reputation in this city as commercial photographers of the highest capabilities. Mr. Passavant is perhaps the most widely experienced photographic worker in this city, being one of the two brothers who founded and successfully conducted the Passavant Dry Plate Company here in the early years of the dry plate. The plates had an excellent reputation for many years. With Mr. Passavant are associated a number of experts, allowing him to give his special attention to the finishing department. In offering the services of their superior equipment and skill to other photographers, both amateur and professional, they are making it possible for such to secure the best obtainable work in the way of developing, printing and enlarging, and at prices that are inviting. They already have a large number of such customers, both locally and throughout the country, but can take on much more. Look up the half-page advertisement in this issue and send them a roll of film or a couple of negatives in order to try their work.

A Credit Overlooked

Bausch & Lomb Optical Company ask us to announce that the name of Mrs. Ethel Grant Scott, who made the negative of the child and the Christmas tree which illustrated their advertisement in the December issue of this journal, was inadvertently omitted.

Get a Copy

We are just in receipt of a very interesting little booklet published by the Wollensak Optical Company for hand and view camera workers. It tells, in an interesting manner, concerning various types of lenses and why one lens is not practical for all-around work. It contains, as well, interesting information on stops, their values, focal lengths, exposures required

with different stops, and touches in an instructive way upon depth of field or definition, how to focus for different classes of work, etc. We are informed by the Wollensak Optical Company that copies of this booklet can be obtained of any dealer in photographic supplies, but in case any reader of CAMERA CRAFT should have any difficulty in obtaining one, the Wollensak Company will be pleased to send a copy direct. Address, Wollensak Optical Company, Rochester, New York.

Prints Are Exhibited

An unusual opportunity is offered Riversiders, artistically inclined, of viewing a collection of eight carbon prints from the studio of one of the greatest, if not the greatest of American photographic artists, Wilbur H. Porterfield of Buffalo, N. Y. These prints are on exhibition in the art room of Field's Photocraft Shop in the Loring Block.

Mr. Porterfield is pre-eminent in his art, both in America and abroad, having not only received medals on this side of the Atlantic, but having won a prize at the International Photographic Exhibition in Dresden, Germany. He is the head of what is known, in the world of camera craft, as the Photo-Pictorialists of Buffalo.

Two or three decorative studies of water, together with four landscapes and a study of the moon comprise the collection hung in the local gallery.

A portion of the Field studio has been devoted, for the past few days, to an exhibit of some of the prints of Louis Fleckenstein, the Los Angeles photographic artist. One of the best portraits ever shown in this city is Mr. Fleckenstein's portrait of the Reverend Mr. R—. This is developed in a two-tone effect, the lighter portions of the face and hands in a flesh color, the darker parts and background resembling a charcoal study, rather than a photograph.

CAMERA CRAFT

An interesting group is entitled "Enigma," and the subject is patently such, an enigma with a thousand solutions.

"Maid of the Frontier" has received high honors, though less striking in composition than a number of others. "Moving the Flock," a sepia print, excellent in atmospheric effect and poetic in every detail, is perhaps the best sample of the artistry of the photographer.—*Riverside Press.*

The Ilex Booklet

We have just received a handsome little booklet giving an outline of the many points of superiority claimed for the line of Ilex shutters and showing the several shutters making up their line. As the Ilex shutter dispenses entirely with pump and valve action as a retarding device, employing instead a "wheel-arrangement" similar to that used in a watch, and has several other points of difference, this booklet makes most interesting reading for those who use shutters and appreciate the importance of having them as accurate as possible. A copy of the book will be gladly sent upon request. Apply, Ilex Optical Company, 81 Ilex Circle, Rochester, New York.

Ansco Company to Open Branch

Another step towards a bigger Binghamton will be taken when Clarence B. Stanbury, Second Vice-President of the Ansco Company, sails from New York City on January seventeenth aboard the steamship "Baltic," bound for London, where he will organize an English affiliation of the Ansco Company under the name of "Ansco, Limited of London."

Mr. Stanbury has just returned from an extended trip to the Pacific Coast, where he organized a San Francisco branch of the company, thus completing a chain of branches which extend in a complete network covering the entire country.

In an interview with a *Press* representative this morning, an officer of the company said:

"We are very well satisfied with the returns from all of our new branches recently installed and the trend seems to be towards a continued increasing demand for our Binghamton product whose merit dealers and consumers the world over are not slow to recognize.—*Binghamton Press.*"

The Photo Tri Bliss

John J. Umbehaun, a photographer of Deshler, Nebraska, has invented a combination device for photographers that should have the attention of every member of the photographic craft. It combines, in a remarkably simple manner, a retouching desk, a photographic printer with timer and tally for either daylight or artificial light, and an enlarger with patent easel tray that also serves as a copy board. As the reaper supplanted the scythe by its increased efficiency, this device will supplant the antiquated printing frame with enterprising photographers. Write Mr. Umbehaun for particulars before the matter is forgotten. His advertisement appears on another page.

The American Horticulturist

Our readers, particularly those interested in orcharding and fruit trees, should get a sample copy of this new publication, so ably edited by Professor Benjamin W. Douglass, the gentleman who created the Department of Entomology for the State of Indiana. Our brief notices of his annual report for the past few years have given but a faint idea of the thoroughness and enthusiasm that Professor Douglass displays, and his practical knowledge of every phrase of horticulture cannot help but make the new magazine an authoritative and helpful factor in a field that up to its advent has been none too well filled. The magazine is handsomely illustrated and the illustrations really illustrate. The articles are practical, giving information that is concrete, not abstract. Get your subscription in now while the complete volume may be obtained. The price is one dollar and fifty cents a year. Address, American Horticulturist, Fowler, Indiana.

The New Process Year Book

The seventeen volume of "Penrose's Annual" is, like all its predecessors, a handsome volume, an improvement on what seemed unimprovable last year, and a book that every photographer, printer, illustrator, or photoengraver should have. It contains over sixty articles and over five hundred illustrations. There are two rotary photoengravings, two litho off-set illustrations, a collotype, and a large number of two, three, four, and five color half-

NOTES AND COMMENT

tone prints, in addition to the wealth of fine half-tone work in one color. These examples come from all parts of the world and gives one a comprehensive survey of the advancement of these processes that could not be obtained in any other way. Copies can be obtained, express prepaid, from Tennant & Ward, 122 East Twenty-fifth Street, New York. The local firm, Hirsch & Kaiser, will, as usual, have a supply and fill orders while they last.

California Camera Club

In the year just passed the California Camera Club has enjoyed a most prosperous one. President Edward H. Kemp is confident that 1912 will see the Club on a firmer and more satisfactory basis than ever before, and his views are shared by the Board of Directors.

The demonstrations and instructions for beginners will continue while the higher branches are to be taken up for the benefit of the advanced workers. Professor B. R. Baumgardt, of the University of Southern California; Burton Holmes, the famous lecturer, and his associate, Oscar B. Depue, have been made honorary members in appreciation of favors rendered.

The social side of Club activity is being fastened with card parties, private entertainments, suppers at the headquarters, etc. In December, the Club held an exhibition and sale of prints, for the benefit of the equipment fund, and also gave a pay show of the Kinemacola motion pictures. Interchange slides are shown at the monthly meetings, and a regular illustrated lecture is given at a large hall each month, the members being furnished with tickets for themselves and friends.

To Advantage of Americans

"Manufacturers contemplating the commercial exploitation of Mexico or the extension of plans already exploited, would do well to study carefully the political conditions in the republic, especially as these will affect the merchants, before proceeding to the execution of their plans," said William V. Moore, general agent of the Bausch & Lomb Optical Company, who has just returned from the City of Mexico. Mr. Moore added:

"Once across the Rio Grande river I expected to be confronted with the Federal Army of Mexico and to see some fighting here and there, so much having been said

and written in the United States relative to the counter revolution. However, there was peace and quiet everywhere in the republic as far as I was able to observe, the only signs of extra precautions against attack being bodies of rurales, or state police, patrolling the border and going to and from the interior towns.

"Arriving at the City of Mexico I found that outside of official circles the Americans engaged in business there were not at all disturbed by the rumors of General Reyes entering the city with his soldiers. In official circles, however, this tranquillity did not seem to be so prevalent, some of the government officials with whom I talked being very cautious about advising me with regard to the commercial exploitation of their own country. And this precaution of the officials was reflected in the real existing business conditions in the City of Mexico. I found that the merchants there, chiefly American, German and French, were unwilling to consider new contracts involving heavy expenditures extending over a period of time. Business is at an extremely low ebb and I do not think that conditions will be much better until the people have greater confidence in the stability of the new political regime.

"The Mexican government has always been a very fair customer of our company, and the scientific apparatus found in observatories and educational institutions bear evidence of the satisfaction the officials feel in the progress made by the American manufacturers of scientific optical instruments. That the government officials are anxious to re-establish confidence in the country and pave the way for the American manufacturers there is no doubt, according to the statement of the American Ambassador, Henry Payne Wilson. In this connection he stated that within a few days President Madero had exhibited to a committee of citizens the vaults of the Treasury containing upwards of fifty million dollars in cash and securities. Regarding the future political conditions, of course, the Ambassador studiously refrained from any expression of opinion.

"Once on a working basis, with peace restored for a certainty, I believe that Mexico holds out great inducements to the American manufacturer, but he must be satisfied with gradual progress as the general conditions

CAMERA CRAFT

of the population must first be improved before the great results attendant upon such a change will be available."—*Rochester Democrat and Chronicle*.

Mr. Lynch Moves

W. F. Lynch, the popular and enterprising proprietor of the camera exchange located on lower Market Street for the past few years, is removing to new quarters on Montgomery Street, the number being 109, the same number as that of the old firm with which Mr. Lynch was connected before the fire. With more room and with a location more accessible to a larger number of his customers, Mr. Lynch can look for an even larger increase in his business than the one which he has enjoyed as a result of his courteous attention to business and his uniform fair and square dealing.

The Seneca Cameras

One of our correspondents writes, in a letter just to hand, that within the past few weeks he has had the pleasure of spending part of a day with the Seneca Camera Manufacturing Company of Rochester. Some time was spent in reminiscing back years ago to the time Seneca cameras were first made in

signed for great speed, and calculated for the irregularities of picture-making; they bear the full sunlight of scrutiny.

"From the first, Seneca cameras have represented a high type of photographic development. In grace and perfection of design; in strength and rigidity with lightness; in harmonious adjustment throughout; in masterly simplicity of construction; in durability and adaptability, Seneca cameras mark a high point of perfection. New ideas suggested by the ever-advancing knowledge of the art have been crystallized and developed in these superb cameras, constantly making them wider in range, greater in value, more perfect in attainment for the work of the photographer, be he beginner, advanced amateur, or professional.

"Seneca cameras are made in all styles and sizes, designed for pleasurable and profitable photography. The Seneca Camera Company studies the needs of the photographer and makes a camera for every class of use. The simplest instrument works best in the hands of the beginner; the landscape artist wants a substantial view camera; while the advanced amateur, artist and scientist will wish to possess one of the well-rounded, ever-available equipments to be found in the advanced line of Senecas.

The beautiful Seneca camera catalogue, listing one hundred and eighty styles of cameras, is distributed free of charge and may be had by any one interested in photography by simply addressing the Seneca Camera Manufacturing Company, Rochester, N. Y., and mentioning this publication.



a small one-room building. He says: "I ascertained some very surprising facts and followed with great interest their growth and increase in factory space and output. From this very meager beginning, the Seneca people moved into a three-story building, a few years later into four-story and basement building, and now they enjoy the advantages of a large, light and airy six or seven-story building in the very heart of the manufacturing center of the city.

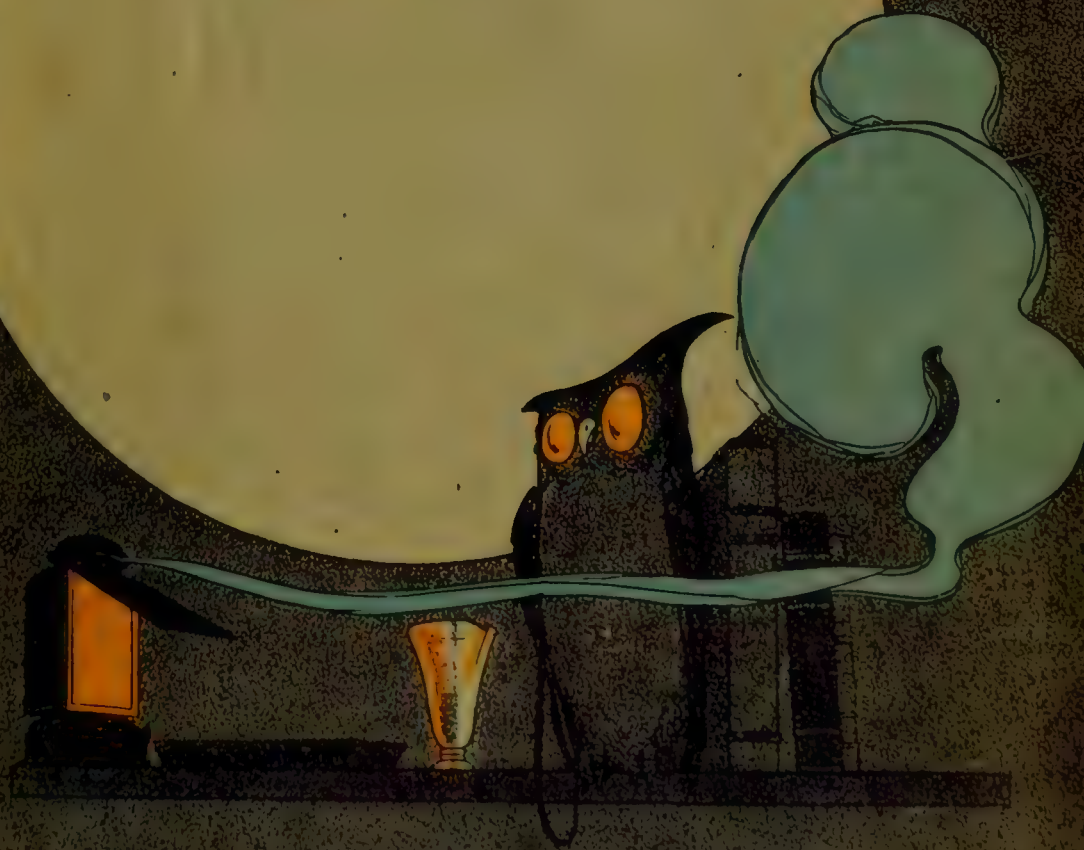
"For years they have been holding Seneca cameras to the fore in mechanical improvement; they are photographic instruments de-

Illinois College of Photography

Friend Cochran, of Charleston, West Virginia, student of 1907, was elected secretary of the West Virginia Photographers' Association at their last convention.

We are pleased to record the marriage of Miss Cyranthia Jones, student of 1911, to G. W. Clayton, of Irvington, Indiana, last month. We must also include in our marriage column the wedding of Grover Niemeyer, of Chicago and Miss Grace Potter, of Lexington, Kentucky. Mr. Niemeyer was formerly secretary at the colleges.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

Money and Reputation

are acquired only by the photographer who pleases his customer.

The customer is the judge — not of brand of plate or paper, but of RESULTS. He is either pleased or disappointed. A photographer travelled to Binghamton and back to his town on Xmas, to get what?

Contrast Cyko Paper

He had made a panoram group picture. If satisfactory several hundred prints were required at once. His proof print was rejected—his negative was weak and thin. His dealer, a Trust agent, is honest. "Try CYKO," he advised him, "nothing else will do. I keep a little to use when up against it."

The photographer won out, but had to travel a hundred miles, because his town was "Trust Bound."

AnSCO Company
Binghamton, N. Y.



WINTER
BY CARL T. THAYER

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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No. 3

The Net Results

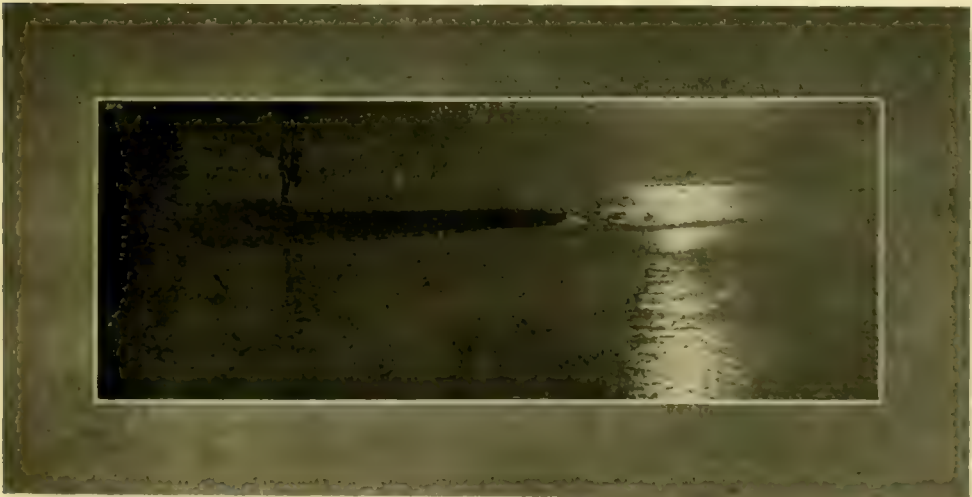
By F. Belmont Odell



With Illustrations by the Author

Not so long ago, I thought nothing could be photographed unless it was in direct sunlight; and, in those days, a string of freight cars standing on a siding had pictorial possibilities far beyond those of the fairest landscape.

While in that stage of undevelopment, I accepted an invitation to visit my uncle's farm, and during my two weeks there I took pictures (?) of every



THE SILVER SHEEN OF MOONLIGHT ON THE WATER

CAMERA CRAFT

portable object that could be coaxed, chased, or dragged out into the bright sunlight. The farm animals were "took" singly, in pairs, trios, and groups, till they fled like wild game at the sight of me and my black box. I was glad of it; they were inhuman and commonplace subjects, anyhow. What I wanted, most of all, was to make a portrait of a human; but, for some then unknown reason, nearly every one on the place seemed determined that my desire should not be gratified. However, the world of art owes my aunt an everlasting debt of gratitude, for she calmly suffered herself to be led out into the yard, and her patient face turned to the torrid rays of the sun. I set the shutter indicator at "1" and poked down on the release lever, in blissful confidence that the dealer would do the rest. It is needless to record that the result of that exposure was unique. To begin with, this particular aunt is unnecessarily tall and angular, and whatever she lacked in these two attributes was more than compensated for by the distorting proclivities of my lens. It seemed to me, then, that the one supreme requisite in portraiture was harmony, but not until that plate was developed did I realize how admirably I had succeeded. The figure, in the



DECORATIVE EFFECT AND ATMOSPHERIC DISTANCE

resultant print, blended so perfectly with its surroundings that it was quite difficult to distinguish my aunt from the adjacent scenery. The picture possessed other good points; for instance, the subject resembled my aunt in that it wore an apron. The figure of my aunt began somewhere outside the boundary lines of the plate, cutting in at the top and extending downward, finally leaving

NET RESULTS

the plate at a point near the lower left-hand corner. A hen, apparently the size of an ostrich, was stalking across the foreground of the picture, effectually concealing the lower portion of the principal subject. There had been no hen in the view finder.

I took the negative to an old photographer for advice, and that dignitary kindly explained that it was all the fault of the Eastman Kodak Company.



FOREST KING

THE MOON

ASTERS

"They do not make their plates long enough," he said. This sage advice was received with gratitude, inasmuch as it took all the blame off the dealer who developed the plate.

The foregoing is typical of the beginner's experience in amateur photography; represents the status of thousands of these beginners, many of whom never get much further. Too many of us, year after year, continue to turn out poor, and in many cases, positively bad, work, when a little study and thought would yield big returns in material saved and results obtained. In the vast army of camera users there is plenty of latent ability and talent running to waste, not to mention tons of good material,—the amateur photographers' constant contribution to the garbage cans. It is safe to say that nearly one-half the material sold to the tyros eventually finds its way to the rubbish heap. It is also quite safe to say that nine-tenths of the remaining half should.

If you think I am right, go to your supply store and ask to be shown a batch of prints made from undeveloped films brought in by amateurs: a brass band on parade, a church spire, one end of a bridge or a slice out of the middle,—not even good records. If these same amateurs would study a little, would let the scales fall from their eyes, new worlds would open unto them. If they would get out of the cities and seek material in the hills, along the woodland

CAMERA CRAFT

streams, and where the call of the wild invites, these same amateurs, using these same cameras and materials, would, at least once in a while, make a picture. And, after selecting the subject and making the exposure, the remaining part of the process is so fascinating and wholesome that I could never understand why so many amateurs are willing to forego its pleasure and pay the dealer's prices for doing their finishing.

There is little excuse for poor, or even mediocre, work. The magazines, with halftone reproductions, their special articles, the criticism department, hints, advice, and helpful editorials, are an educative force of great value. In fact, we can go as far as we like; the field is wide open. Public libraries are stocked with works of the world's critics, and plate copies of the paintings which will live for all time. To know, intimately, these pictures made by masters of the craft is to know something of the factors which made them immortal, viz., composition, arrangement, perspective, refraction and tonal graduation. All these qualities, quite impossible to remember, except in one's subconscious mind, will have their influence when one's head is under the focus cloth; and, instinct-



THE PATHWAY IN THE PARK AND THE SEAT THAT INVITES

ively, one will know whether to squeeze the bulb or close up and pass on. I have made failures,—loads of them; failures when I might have, by pushing the camera front half an inch to the right or left, made a picture. I am a beginner myself, but I am emphatically for pictorial photography and the evolution of amateurs to an appreciation of the camera and its possibilities.

But who can paint like Nature? Can imagination boast, amid its gay creations, hues like hers?—JAMES THOMSON.

My Two Flashlight Systems

By Thomas Southworth



Illustrated by the Author

Mr. Southworth, like most capable photographers from whom we can learn, is a very busy man. His article of over a year ago brought many enquiries to his desk, resulting in correspondence for which he had all inclination, but no available time. He has, this time, gone to the trouble of making the illustrations herewith, and has taken great care to furnish all details, in order that correspondence might not be necessary. However, we have secured his promise that, should anyone feel that they really needed further information and were anxious to install either or both systems, such information and advice as he can give in one communication will be extended if the enquirer will enclose one dollar with his letter. He can be addressed care of this magazine. He has nothing to sell and only makes the above stipulation at our request, because his time is so fully occupied that we could not ask him to favor our readers further. As we have suggested to Mr. Southworth, this stipulation will limit the enquiries to those who really wish to put his methods into practice, yet may desire to secure some further information, despite his best efforts to cover every detail.—THE EDITOR.



Flashlight arrangement for portraiture, showing flash lamps in position. Battery for firing on shelf at right. Arc light, having little actinic quality, just above upper left corner where blur of light is seen.

HANKS, if there be any for this article, are due, I'm sure, to this touch of real winter we are now going through. With Christmas work all out of the way, and the necessary straightening up over with, I decided I would at once get this article off, an article promised the editor so long ago. It was my own proposal, this article, and I do not know whether it will be called altruism, egotism, or what, on my part; but I do know what my motive was when I promised it as a follower to my article on the same subject a year ago. I have never gotten over my boyhood inclination to run

around and tell my chums whenever I got hold of something good, and that is why I am writing this; I want my photographic chums to know about my flashlight arrangements. They may not be new to all, but I know that what I have to show and what I have to say, will be, either wholly or in part, new to many.

I have two systems to tell about, one for studio work and the other for deep and difficult interiors. Taking up the first; I contributed to CAMERA

CAMERA CRAFT

CRAFT, a little over a year ago, my first talk on this subject, illustrating it with photographs of my equipment and specimens of my work. My present system is no more efficient and the results obtained, in a direct way, are no better. The advantages of the system I am going to explain lie in its economy of time during that trying period, of making baby and child pictures, when every moment is golden; in economy in cost of labor and construction; and in saving of floor space. The above illustration, used as an initial, shows my present arrangement. The history of its evolution is not necessary, further than to say that it was not discovered or worked out in a day, but is the outgrowth of three years of continuous use of the flashlight in the studio. Modifications, remodelings, little changes and big changes, all have been made from time to time; in fact, I made three complete new flash cabinets, each an improvement on its predecessor, during these three years. Last May I decided to discard my last model, and, since then, have made all my flashlights, and made them daily, in the manner illustrated. I do not make all my sittings by the flash, but invariably use it for the young folks and the babies. The only change I have to make on the flash to the regular daylight studio arrangement is to release two curtains and draw the balanced flash-pan down below the lowest part of my skylight.

It would require unnecessary space to go into details as to the advantages of the arrangement here described, as they are too obvious. I am not writing this for the purpose of boosting flashlight studio work, because there are very few of the better class of photographers having anything derogatory to say in regard to the quality of a well-made flashlight picture. The number of convention prize-winning portraits that are made by flashlight will at once refute any unfavorable criticism. In fact, one naturally expects, when viewing an unusually fine piece of work, to learn that it was made by flashlight. Only the drawbacks of manipulation, smoke, etc., have prevented its coming into more general use; and it is with these drawbacks, their amelioration and elimination, that I shall deal.

I have mentioned the ease with which I am able to change from the flash to daylight, these changes being made in less time than it takes to describe. This is a nice advantage, as one does not want to make everything by flash. The flash-pan is provided with a balancing block or weight that runs up to the ceiling as the pan is pulled down in front of the light. When the flash-pan is pulled down below the skylight, the balancing block is against the ceiling, hence there is no obstruction in front of the skylight. Only a slight pull on the cord which hangs downward from the pan is required to bring it down for loading, after which it is allowed to run up to the desired point for making the flash. One of the illustrations herewith shows the flash-pan in position in front of the skylight, which latter is of ribbed glass. No fusing is necessary with this lamp, as a jump-spark battery, contained in the small square box on back of pan next to the skylight, is used. This was purchased from a local electrician, who also made the complete flash-pan. The jump-spark method of ignition has many advantages over the old plan of fusing a small wire. In the saving of time when every moment is precious, it is a surprise to those who are unfamiliar with its working. Just as soon as one flash is made, one can jump around to

MY TWO FLASHLIGHT SYSTEMS



A FLASHLIGHT COMBINATION PICTURE.

the pan, pull it down with the cord shown hanging below it, throw on a spoonful of powder, let it run up to the desired point, and get back to the camera ready for another exposure. Some idea of how quickly this is done can be gathered from a recent experience of mine with a baby group picture sitting.



An exposure made at same time and with same flash as used for portrait of young man carrying the triangular lamps. Shows arrangement of flash and screens.



Flash pan almost at bottom of skylight with balancing block shown above. Shelf carrying one of the discharge fans shown at upper right hand corner.

The order was for one dozen 11x14 prints showing a combination made up of nine positions; the subject, a six months old baby. I made sixteen exposures, every one of which were perfect as far as timing and lack of movement were concerned, and every one first class, according to my judgment. The sister in charge of the little subject walked out of my studio in just fifteen minutes from the time she entered. Nothing really remarkable about this, just an ordinary baby, full of life and go, but well behaved and no trouble. There was no effort to make a record, it being purely accidental that I noted both the time of first sitting and of their departure. At this point I would call the reader's attention to the reproductions of some of my specimens of baby pictures herewith. They are all combination pictures, of which I make a great number. One was made at night; the time of day when my sitter walks in no longer concerns me.

I have just caught myself starting to do that which I said would not be done, that is, take up space to proclaim the advantages of the flash. We are, I believe, nearly all agreed as to that point. Those who have not yet formed an opinion can carefully look over these few baby groups and ask themselves how many negatives they would have to make, using daylight, even daylight at its best, in order to get such good action into their pictures. Some may think these particular examples are exceptional, that they were taken by a master or a genius. Oh! no, I say, any good, average, ambitious photographer can get the same results, and get them every day in the week. If one can secure good results with the little folks by daylight, he can get most excellent results by my method of flashlight, the better facilities making the better results possible.

Besides the initial picture, I am using two others to illustrate my method. They are shown in order to make a lengthy description unnecessary. One is of an exposure made at the same time and with the same flash used to photograph the young man carrying the nested lamps I use for deep interiors. As shown, two diffusing screens are interposed between the flash and sitter. Both of these

MY TWO FLASHLIGHT SYSTEMS



ANOTHER COMBINATION OF FLASHLIGHT PICTURES.

are invariably used. The one next to the sitter is cheese cloth, the larger one of India linen, and both white. I was never able to get the degree of softness that I like with only one diffusing screen. I use about twelve to fifteen grains of Victor powder for each sitting, lens at f-4, dark background. With light grounds a little less powder is used. I never weigh out the powder, but use a mustard spoon level full for white grounds and slightly heaped for dark ones.

Two ordinary electric fans, one of which can be seen near the top of the initial illustration, are used as exhaust fans. Each stands in front of an opening that is the mouth of a twelve-inch flue, made of galvanized iron, containing

CAMERA CRAFT

a bend or elbow carrying it up through the roof, and fitted with hinged and weighted cover that can be raised or lowered by the heavy cords, shown each side of the skylight. When not in use, in winter, these are kept closed to keep in the warm air. I have found it necessary to adjust the fans so that the blades work just inside the mouth of the flue. Using these fans, there is no trouble with smoke; it all rolls up the large diffusing screen most beautifully; where, if the fan at one end does not catch it, the other will, none coming out at the sides as might be feared.

The support of the inner diffusing screen is also used to carry a light controller made up of three narrow, opaque, window shades, which, working from the bottom, can be drawn up to any desired position. My shutter, a Silent, is so arranged inside the camera that the bulb, in opening it, closes an electric current that produces the jump spark and ignites the powder simultaneously. This is easily arranged by an electrician. About eight or ten inches of ordinary flexible incandescent light cord extends through the camera front with an ordinary socket on the end. Into this socket can be screwed a plug, which in turn is connected with a longer cord extending to the five cells of dry batteries which provide current for the jump spark. The button on the socket is turned off during focusing. The cord can be quickly disconnected with only the trouble of unscrewing the plug from the socket.

The practice, still indulged in by some photographers, of keeping the operating room very dark while making flashlight exposures, is responsible, to a great extent, for their lack of success with numerous sittings. It is quite important that what may be called the "sitter's light" be of sufficient intensity to maintain the eyes of the subject at their normal size and appearance. This does not mean having this light of an actinic quality; in fact, it should be just the opposite. The light, this "sitter's light," should be of such small actinic value that it can have little or no appreciable action on the plate after the discharge of the powder and before the shutter closes. Yet it should be of sufficient intensity to permit the operator to easily observe every variation of the subject's expression, and also cause the subject's eyes to maintain their normal size. No better proof of the importance of this last can be given than an examination of the effect of varying light intensities upon the eye. Sunshine, on snow, in winter, compels one to squint; bright sunlight alone allows the eye to open, but the pupil is contracted; a softer light, as on a cloudy day, and the eyes are normal. These changes are a part of the natural accommodation of the eye to the light, and do not stop here. Although one may not feel or realize the change, the pupil of the eye enlarges as it accommodates itself to diminished light. Ample proof of this is afforded by some of the old-time flashlight portraits, made with all the lights carefully extinguished before the flash. We have all seen them; the flash was not responsible for the staring expression, the darkness was to blame.

I find an ordinary arc lamp eminently satisfactory for the purpose, when making night sittings. For day sittings, a little daylight is sufficient. I seldom interpose any more curtains between the skylight and sitter than the two diffusing ones mentioned when making flashes during daylight. With the quickest possible bulb exposure and the two diffusing curtains drawn, a negative of a quality

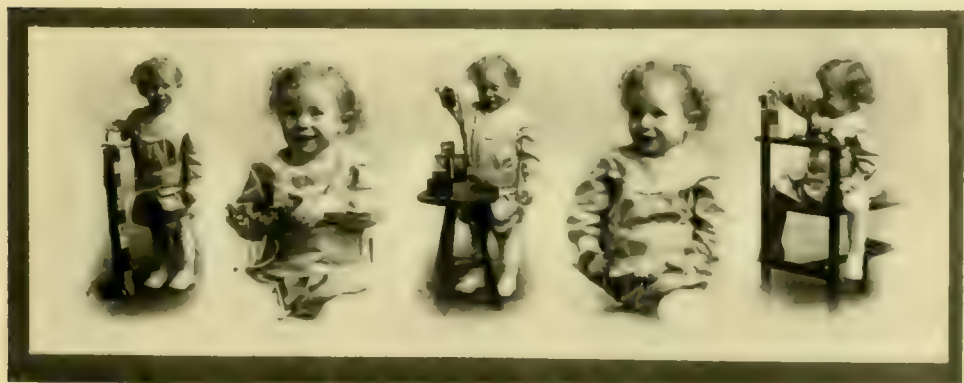
MY TWO FLASHLIGHT SYSTEMS



THESE PICTURES EASILY SECURED BY FLASHLIGHT.

that gives nice results on Special Velox can be obtained. This, however, when the daylight is good and I am using an $f-4$ lens wide open. Nevertheless I have two shades made of orange-colored domestic and attached to the top of the skylight next to the glass, for occasional use. They are employed when it is desired to confine the illumination quite closely to the flash while making the exposure. They are seldom used except in summer when the light is very strong. Something not quite so non-actinic, say a light or medium yellow domestic, would be more desirable, perhaps, as they could be used when the heavy orange shades would make the room entirely too dark. This applies to a single-slant light such as mine; the top and side-light form, I should judge, might better be equipped with the orange-colored material to control the direct sunlight that often reaches such a light during summer; the idea throughout being to have as much illumination in the room as possible for the benefit of both sitter and operator, but to have it as non-actinic as one can.

I will now take up the second matter; deep interiors by flashlight. I would first call the attention of the reader to the examples of this class of work reproduced herewith. All were made on 11×14 plates with an 8×10 , Series V, Bausch & Lomb Zeiss, stop $f-22$. The angle comprised in these pictures is about as great as can be gotten by flashlight, $f-22$ being about as far as it is practical to stop down in making flash exposures. In one or two of these examples the





INTERIOR DRY GOODS STORE. FLASH FROM EIGHT LAMPS SHOWING HARDWARE

lines might be improved upon, but the operator did not feel justified in making further demands upon an 8x10 wide-angle lens, used on an 11x14 plate, by swinging the camera back more than was done. Considerable additional stopping down would have been required, necessitating in turn a much greater quantity of powder. As it was, about one ounce of powder was used in each case, distributed among ten to twelve lamps. The interior of the dry goods store is twenty-five feet wide and one hundred and twenty-five feet deep. Eleven flashes, discharged simultaneously by electricity, were used; eight only showing in the reproduction, as three were adjusted high above the camera. The hardware store was a very dark interior, and many of the articles in the rear of the store that could hardly be seen from the position of the camera are clearly shown in the picture. One ounce of Victor powder, distributed in twelve lamps, was used for this. The jewelry store, made last week, was secured with my latest set of lamps and firing blocks. Attention is called to the even distribution and softness of the light. The furniture store interior was made with what I call my "flat lamps." These last are used whenever possible, as they give more illumination than can be obtained with the "triangle lamps." In a case like this last, aside from the increased illumination, the flat lamps are far more suitable than the others on account of their better adaptation to the pillars across the store.

I have twelve of the triangular lamps, made in two sets of six, each set nesting together as shown in illustration as being carried by the young man. The top and bottom of each lamp are half of a square, the dividing cut being diagonal. The two largest tops measure twenty-one inches on two sides and

MY TWO FLASHLIGHT SYSTEMS



HARDWARE STORE, A VERY DARK INTERIOR

twenty-nine and a half on the long side. The height of the two largest is thirty-three inches. The top pieces are cut from half-inch poplar and the sides are made of heavy corrugated board, reinforced around outside and inside edges



JEWELRY STORE INTERIOR, SIX LAMPS SHOWING AS USED

CAMERA CRAFT.



NESTED TRIANGLED LAMPS AS CARRIED. LAMP READY FOR FIRING.
 SHOWING CONSTRUCTION OF FIRING BLOCK.

with thin strips of wood. In my case, I bought a few of these cheap yardsticks that furniture and carpet stores give away for advertisements. All angles are reinforced by pasting on heavy wrapping paper, and the outside is decorated by pasting on strips of narrow wall-paper border, with the idea of making the lamps look as sightly and as much like a part of the stores as possible. Two looped wires are fastened to the top of each lamp, one on each side, permitting hanging against either a right or left-hand wall. They are suspended from Moore's Pushless Hangers, No. 25, described in Burke & James new catalogue. They eliminate the use of nails and hold securely on either plastered or boarded walls without defacing them. The flat form of lamp can seldom be brought into use before the lens, because they do not direct the light to as great an extent as do the triangular ones. They are made of two pieces of ordinary mat board, 30x40, pasted back to back. They are provided with thin wooden shelves about fourteen inches long and three inches deep, with angular slots properly spaced to receive the two turned-down end pieces of the firing blocks, just as are the triangular ones; the same wiring and firing blocks are used for either kind. One of these blocks is shown herewith. They are made out of the advertising yardstick material mentioned above, the center piece being eleven inches long, with ends cut at an angle of forty-five degrees across their flat surface. To each end is hinged a shorter piece, about two and one-half inches long, with ends cut square, and these ends fit into slots provided for them on the inside of the lamps or screens. Being hinged, these ends lie out flat when not in use.

MY TWO FLASHLIGHT SYSTEMS

The binding screws shown as holding the No. $\frac{1}{2}$ fuse wire over which the powder is placed, are the kind that are used on ordinary dry battery cells, cells that are thrown away when exhausted. The electrician who replaces the cells for the telephones will give one any number desired. As used, they also clamp and hold the ends of the No. 18 flexible cord which connects up the lamps. It is very important that nothing but wire of the capacity of No. 12 or greater be used in any part of the main circuit employed to fire from eight to twelve of the lamps, as blown fuses or irregular discharge of the lamps will result. The No. 18 cord that hangs from the lamp is connected to the No. 12 or circuit cord by having a large-headed thumb tack soldered to the end of each of the first, these to be pushed through the center of the main or circuit cord. As a



FURNITURE STORE INTERIOR. SHOWING FLAT LAMPS BEHIND PILLARS.

precaution against these thumb-tack heads being accidentally knocked out and keeping that particular lamp from firing, I use ordinary U. S. photo clips to hold them in position in contact with the cord. A neater and more business-like arrangement could be secured by using what electricians call temporary testing clamps, costing twenty-five or thirty cents each. They are in the form of a clamp, holding one wire and fitted with a spike which penetrates the bundle of fine wires making up the main cord, insuring perfect contact.

Speaking of blown fuses: I invariably carry some Aristo lamp fuses with me and put them in place of those found where the circuit I am using joins the main. All lights on the circuit used must be cut off so that when the current is turned on the flash lamps get the full benefit of all the electricity the cord is

CAMERA CRAFT

capable of carrying. I use two, one hundred foot lengths of the No. 12 flexible cord, one for each side of the store, and also an extra piece about fifteen feet long with double socket at one end, to connect these two to the ceiling wire of the circuit used. It is sometimes difficult to get this last connection, but it must be made to assure success. It requires from an hour to an hour and a half to get everything adjusted, but one has the privilege of fixing his price on good work of this kind, and the price can be made to justify the extra labor.

Regarding the distribution of the lamps, which means the distribution of the light, I have found it quite important that a very heavy portion be used to illuminate the extreme sides of the picture. When one is using a wide-angle lens, and mine is about seven inches focus for my 11x14 plate, the distance from the lens to the outer edge of the plate is very much greater than the distance to the center. One can figure it out and find that, taking the distance from lens to the center and to the extreme side near the corner, while the lens is working at f-18 for the center, the same stop is equal to about f-27 at the extreme sides. In other words, the center gets about two and one-half times the illumination of the sides and corners. I do not know this to be the actual case, not having given the theory the investigation it deserves; but I do know this, I have had to resort to a little intensification on the outer edges of nearly every flash negative I have made under the conditions mentioned. My having done this explains why the specimens herewith do not substantiate this theory of mine, but I have resolved to put in practice the advice given above, with the next interior made.

All great art is delicate art, and all coarse art is bad art. Nay, even to a certain extent, all bold art is bad art; for boldness is not the proper word to apply to the courage and swiftness of a great master, based on knowledge, and coupled with fear and love.—JOHN RUSKIN.



FOUR GOOD FRIENDS
116

By CARL FARNSWORTH

Selecting The Proper Apparatus

By N. L. Avery, I. P. A. 2242



Photography, either as a pastime or a business, has much to recommend it. But in either case, the selection of an outfit, the necessary apparatus should be given thought and study. It is a matter worthy of some consideration.

The simple little box camera will, within its limitations, take just as good pictures as the more elaborate instruments. Light conditions must be good and the necessity of a swing-back or rising and falling front must not be demanded by the subjects selected. A little higher in the scale are the popular folding cameras, well suited to the requirements of those who wish to take up photography as a pastime. They are very handy, being light and compact. they are generally fitted with a better lens than the box cameras, their shutters have a wider range of exposure; and, as they have a rising and falling front, their field of usefulness is wider. Even the professionals find them quite suitable for some classes of work.

But for all around work where the best obtainable pictures are required under widely varying conditions, a view camera is to be recommended. The size is a matter of personal convenience and consideration. I find a $6\frac{1}{2} \times 8\frac{1}{2}$ answers admirably, but many prefer a 5×7 as being less bulky and heavy, with plates costing considerably less. My outfit, $6\frac{1}{2} \times 8\frac{1}{2}$, with tripod, in carrying case, weighs a trifle over twenty pounds. A plate dividing arrangement, a simple screen in the back, makes it possible for me to take two, three, or four, exposures on one plate. The $3\frac{1}{4} \times 8\frac{1}{2}$ is a very effective size for many landscape subjects where one wants neither too much foreground or too much sky. I am sending one such picture to be used with this article. It is such a picture as one is often asked to make and the reader can see that adding to either the sky or the foreground



CAMERA CRAFT



"SUCH A PICTURE AS ONE IS OFTEN ASKED TO MAKE"

would weaken the picture and make it less effective than it is. It was made on a Hammer Extra Rapid, stop U. S. 32, one twenty-fifth second exposure. The other size made by dividing the plate the other way, the $4\frac{1}{4} \times 6\frac{1}{2}$, is very handy when one does not wish to use the full size plate. The picture is of good dimension and pleasing proportion. Used for home portraiture, it gives a picture conforming to the regular "cabinet" size of the professional photographer.

The view camera is well adapted to home portraiture and is as capable of making good portraits as the regular studio camera. Used in a studio, it is more convenient if employed on a light stand, rather than on a tripod. Used on a porch or in an ordinary room where it may have to be moved about considerably, a tripod stay of some kind will be found a great convenience. It allows the operator to pick up the camera and tripod as one, and move it a little to one side or the other, without an entire new adjustment of the tripod legs. An anastigmat lens is perhaps the best all around instrument if one can afford it, but the better class of rapid rectilinear lenses are capable of good work if rightly used. The latter have not the speed of the anastigmats, but their slightly rounded field make them more suitable for view work, as they give more apparent depth of focus with the same stop.

An exposure meter or calculator of some kind is quite necessary if much outdoor work is done. I have always used the Wellcome Exposure Calculator, as published in the back of the "Wellcome Exposure Diary and Record Book," with the best of results. A small flash lamp is another desirable addition to one's outfit for home portraiture, if much of that kind of work is to be attempted. One will often find the light conditions are too poor for daylight exposures. The lamp should be small and compact enough to fit into the carrying case. Mine, the "Spred-Lite," cost but sixty cents, and I have found it practical and reliable. Its chief advantage lies in the wide surface provided for the powder, giving the maximum amount of light. By using a small piece of white cheese-cloth, a piece about a yard square, between the light and the subject, the results produced are soft and pleasing, very much like daylight used under the best conditions.

SELECTING THE PROPER APPARATUS

For developing either plates or films, the tank is, in my estimation, unequaled. If any care or judgment be used in making the exposures, the tank will take care of the development. There are several good tanks on the market, but one should select one that can be reversed during the process of developing. Using them as directed, one will produce better average negatives than is possible by use of the tray, and do it with much less work and trouble.

When it comes to printing, a good developing paper readily meets all the requirements. Personally, I use Cyko, there being a grade suitable for almost any kind of a negative; and, with the various surfaces obtainable, one can produce almost any effect desired. Most workers who have trouble with their prints are suffering disappointment simply because they do not use the particular paper suited to the negative in hand. I often see prints made on a hard grade of paper that should have been made on a soft or slow grade. One will print subjects of a large, broad, character on a smooth surface paper and wonder why they do not look right. Small work, and subjects full of fine detail and gradation that one wants retained, should be printed on a smooth or fine matte surface. Larger work that is strong in character and made up of large masses, can be printed on rough surface paper to advantage, as a general rule.

I am not writing this as an advertisement for the several articles mentioned, but simply to give my fellow workers a page from my own experience. I have not been dogmatic; at least, have tried to avoid so being. I have not gone into full detail, preferring to merely suggest the importance



HOME PORTRAITS MADE WITH A SMALL FLASH LAMP

of a careful selection of apparatus and material. Different workers will have their own likes and dislikes; what suits me may not suit another, but to some reader who may contemplate going in for a little more serious work, these few hints may be of value. And lastly, I would strongly urge the worker to subscribe for some good photographic magazine, CAMERA CRAFT, if he is not already taking it, and read it diligently. Much can be learned, much that will make one's work better and his expenses lighter.

Photography and War

By Raymond Spiller



Illustrated by Herbert Baldwin

Time was when the historian of war had to write many chapters of descriptive matter before he could get to the record of events. It was necessary to describe the setting of his story by word pictures before he introduced the *dramatis personae*, and it is to be feared that the process has before now occasioned a good deal of fatigue to students of Caesar and Sallust, to say nothing of Gibbon, Kinglake and other voluminous writers. Today the photographer takes his stand by the side of the man of words, and the public, as a rule, firmly declines to read descriptions of anything or anybody, when it



LANDING MULES AT TRIPOLI
120

From a negative developed with "Tabloid" Rytol

PHOTOGRAPHY AND WAR



ENCAMPMENT AND BAGGAGE

From a negative developed with "Tabloid" Rytol

can see pictures instead. Moreover, the events in which everybody is interested are not those of the dim and distant past, but of the living present, and for the record of these the photographer is essential.

Just now, North Africa is making history, and not for the first time.



THE LAST ARAB CARAVAN LEAVING FOR THE DESERT

From a negative developed with "Tabloid" Rytol

CAMERA CRAFT

The same oases which now harbor Arab or Turkish fugitives may have been the identical resting places of some flying column of King Magas pursued by the cohorts of Ptolemy Philadelphus, long before Caius Marius set foot in Africa. The Arab caravan in our picture might well be laden with gifts for that splendid queen "who held the gorgeous East in fee." For here the centuries move slowly, and leave no trace upon the sands of the desert. The whole region of Tripoli and Cyrenaica was incorporated in the Roman Empire when Rome was at the height of its greatness. In the seventh century it felt the force of Mohammedan power, and in the sixteenth became a vilayet of the Ottoman Turkish Empire.

Probably our readers find it difficult to give their whole-hearted sympathy to either side in the present struggle. De Quincey, that prince of phrase-makers, once wrote an essay on the art of murder. He pointed out that when you have exhausted the expression of moral repulsion and regret which every good citizen must feel, it is permissible to regard crime from another point of view altogether and to criticize and appraise it as an art. This whimsical conceit is of some service in contemplating war, which is the one thing man cannot civilize, and cannot, when once its terrible course has started, control. War is organized murder, yet what a spectacle, how compelling and how superb. It bites in upon the jaded senses of the world like a mordant upon steel, and begets the keenest curiosity even in the most peace-loving spectator.

On October the fifth, 1911, the Italians landed upon the coast of Tripoli and hoisted their flag on an apparently barren and uninteresting territory which was once a Roman province. Their adventures have since filled many columns of every newspaper and fastened attention upon that strip of North African coast-line hitherto neglected and almost forgotten.

Herbert Baldwin, who was sent out by a London news agency, has secured many characteristic pictures of the scenes of the war, some of which are reproduced in this issue of CAMERA CRAFT. In order to obtain satisfactory prints he had to exercise a good deal of resourcefulness and ingenuity. Writing about his developing methods to Messrs. Burroughs, Wellcome & Company, Mr. Baldwin says: "'Tabloid Rytol' Developer was of invaluable assistance to me out there. In the whole course of my experience I have never had to develop under such adverse conditions, most of my developing being done at night in my hotel bedroom, with only a very scanty supply of water and no facilities for washing, having to leave the films soaking all night in what was by morning lukewarm water, but am glad to say I never had one case of frilling after giving them a bath in your alum hardener. One point I should like to emphasize is the great rapidity with which 'tabloids' dissolve. I had to use the butt-end of my tooth brush to stir them up, and empty soda bottles as measures. On one occasion I developed in the open air at night by the side of a well, with equally good results. I would not, on any account go on similar work without a full supply of 'tabloids,' as I consider them invaluable for such expeditions, especially for a hot climate like North Africa."

One of the surprises of the campaign has been the facility and the rapidity with which Italy has been able to land troops on the coast of Tripoli, a striking

PHOTOGRAPHY AND WAR



ITALIAN MARINES DISEMBARKING AT TRIPOLI
From a negative developed with "Tabloid" Rytol

new testimony, if any were needed, of the importance of sea power. The soldiers disembarking, pitching camp and marching towards the desert have a smart workmanlike air; mules are being largely used for transport, but the camel of the desert is not allowed to be "most 'scruciating idle" either, and is probably having the time of his life in the matter of fodder.

The technical difficulties of snapshotting in Tripoli are soon mastered. The brilliant light, the reflection from the sea and from the sandy steppes of the Jefera reduce the exposure necessary. About two-thirds of the time given on a bright summer's day in London was found to be sufficient.

Mr. Baldwin succeeded in getting a good deal of news through with his photographs at a time when news of Tripoli was exceedingly scarce, owing to the very strict censorship of the Italian authorities. There is a great future before the amateur or professional photographer who takes kindly to war correspondence, but on humanitarian grounds one must hope that those who take to it will have long intervals of resting between the acts of the terrible drama it is their business to record.

The ancients, in prosecuting their learning, compared different things and traced the analogies between them. The drum has no special relation to any of the musical notes, but without it they cannot be harmonized. Water has no particular relation to any of the five colors, but without it they cannot be displayed. Learning has no particular relation to any of the five senses, but without it they cannot be regulated.—CONFUCIUS.

“Our Circle”

By Vercia Louck, I. P. A. 2049



Without doubt there is no organization among photographers, professional or amateur, that enjoys so wide a popularity as the International Photographic Association. A direct outgrowth of it, the Phoenix Print Circle, may, through a brief history and an account of work, prove of interest to the readers of CAMERA CRAFT at this time. In 1908, when *Western Camera Notes* was united with this magazine, the members of its Post Card Exchange were transferred to the I. P. A. list. Among them was a “bunch” of enthusiastic amateurs who, through the exchange of post cards, prints and ideas, had grown to feel like old and congenial spirits. Naturally, in entering so large a family as the I. P. A., they were a bit shy and inclined to stick together. Some of these had previously been identified with a small exchange club, and the idea was then broached of forming a circle, the aim of which would be identical with that of the I. P. A. and in no way interfere with our interest therein.

After the deliberating and planning, arranging and altering, that is usual in such cases, the Phoenix Print Circle was evolved. At the present time we number nine members, twelve members being the limit. In territory we reach from Vermont to Florida in the Eastern section, while Washington is our Western outpost; the middle section is represented by Minnesota, Wisconsin, Ohio, Indiana and Iowa.



CAMERA CRAFT

The personnel of our company comprises farmers, druggists, a nurse, a telegrapher, a teacher, housekeepers and a captain of a United States Life Saving Station. Some are young and some are no longer so—in years; but of such things as age we are not concerned. Our aim is to help one another, in any way we can, to a better understanding and enjoyment of our chosen recreation, photography. Our director is C. R. Smith, of Minneapolis. We have a secretary and three managers. As to method, we work in this way: A pack of prints and a letter is circulated over a regular route. When this pack and letter reaches a member he contributes from four to twenty prints, presumably his best work, with only the number of the print and his name on the back of each. In the Circle letter he places a short social or experience letter, also a criticism sheet on which is written his name, the number of prints contributed and all data concerning them. On this sheet each member in turn writes remarks or criticisms on these prints. If special criticism is desired on any print it is marked "special" and will receive such attention. The member will also examine each other member's prints in the pack and write his remarks or criticisms on the accompanying sheet put in for that purpose. He also takes out the prints and letter he had contributed in the former round; closes the pack and forwards it, with the Circle letter, to the member next on the route. No member is to keep the prints and letter longer than one week, unless the delay is unavoidable. When the pack is sent forward by a member he notifies the secretary, stating the member to whom it is sent and the member from whom it was received. These packs generally travel by express, as Uncle Sam's postal laws are very strict in regard to writing on photographs; the express companies have special rates on such matter and the charges are very reasonable.

Should a member wish a copy of any print, he simply asks for it in exchange, and in that way often gets just what he may want for his collection. A special subject is announced for each round, and as far as possible this subject is adhered to; but it has been found by experience that all rules had best be flexible. Unmounted prints, not post cards, are usually sent; but this, like the rule last mentioned, is subject to exceptions. Indeed, covering as wide a territory and meeting so many different conditions, cast-iron rules would prove irksome and impracticable. All subjects pertaining to photography are discussed in our Circle letter: exposure, development, composition, material used, reading matter, questions and answers, all come in for a share of attention. There is nothing too difficult or too easy for us to "tackle" in our way. We find the principal thing in keeping our Circle interesting and helpful is: first, and most important of all, be prompt; second, keep to our common interest, pictures, and be careful and honest in the criticisms of the prints. We have had changes in our membership; some have left us, others have come in, and death has removed one of our most lovable and esteemed members. The enjoyment alone of looking over the prints and letters is something none of us would care to miss. The variety is interesting; each pack will contain perhaps sixty prints, comprising historical subjects from the Green Mountains of Vermont, palm trees and ocean scenes from Florida's coast, snap-

"OUR CIRCLE"



MIDWINTER
By C. R. SMITH

AN OLD WELL
By G. R. BOSWORTH

RAKING HAY
By VERCIA LOUCK
TAKING A SPIN
By G. R. BOSWORTH
BOYHOOD DAYS
By VERCIA LOUCK

AT THE RIVER
By VERCIA LOUCK
ROYAL PALMS
By E. H. COUTANT
NATURE'S FREAK
By E. H. COUTANT

shots of life in the hospitals and parks of a large city, mountain streams and peaks from the Far West, landscapes and country life from our central section, and foreign views from one of our number who has recently made an extensive European tour. By studying his picturesque and characteristic views of all the principal countries of the old world, his pictures have been of immense instructive value as well as a source of unlimited pleasure to us all. The enthusiasm aroused by a visit of the letters and prints is sufficient to keep one's interest up for some time, and the stimulus of trying to do work that will make a creditable showing, among so many, is just what the amateur needs.

The members of the Phoenix Circle are all working people, there is not a "gentleman of leisure" in the lot. Our work with our cameras and in dark-



THE CROSSING

By GEORGE R. BOSWORTH

rooms must be done in our spare time. And yet, should you ask, "Does it pay?" unhesitatingly we would answer: "In dollars, maybe not; in pleasure, in uplift, in helping to see beauty in the wide outdoors, yes, it pays." Just join the I. P. A., make up a small circle of friends, and find out for yourself what a world of enjoyment there is in this most fascinating pastime.

Bernard Shaw On Art

"The claim of art to our respect must stand or fall with the validity of its pretension to cultivate and refine our senses and faculties until seeing, hearing, feeling, smelling, and tasting become highly conscious and critical acts with us, protesting vehemently against ugliness, noise, discordant speech, frowzy clothing, and re-breathed air, and taking keen interest and pleasure in beauty, in music, and in nature, besides making us insist, as necessary for comfort and decency, on clean, wholesome, handsome fabrics to wear, and utensils of fine material and elegant workmanship to handle. Further, art should refine our sense of character and conduct, of justice and sympathy, greatly heightening our self-knowledge, self-control, precision of action, and considerateness, and making us intolerant of baseness, cruelty, injustice, and intellectual superficiality or vulgarity. The worthy artist or craftsman is he who serves the physical and moral senses by feeding them with pictures, musical compositions, pleasant houses and gardens, good clothes, and fine implements, poems, fictions, essays, and dramas which call the heightened senses and ennobled faculties into pleasurable activity. The great artist is he who goes a step beyond the demand, and, by supplying works of a higher beauty and a higher interest than have yet been perceived, succeeds, after a brief struggle with its strangeness, in adding this fresh extension of sense to the heritage of the race."

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

AN ENLARGING WRINKLE: In timing exposures for enlargements, it is troublesome to divide attention between the main work and keeping track of seconds on a watch in a dark room, especially when a little dodging is necessary. Instead of counting the seconds, I set the shutter at one second and make a series of one-second exposures, counting the clicks. This plan gives absolute uniformity of exposures without any bother.—F. B. O., New York.

EMPLOY THE VACUUM CLEANER: From the persistent crop of pinholes on my negatives I was led to think that a good dusting out of the interior of my camera would be desirable. Following up the idea, I fitted a small, fairly flexible, nozzle to the suction pipe of our vacuum cleaner and applied it to the interior of my camera and also to the protecting flaps inside the slotted end of my holders. The result was an entire absence of pinholes on my next batch of negatives made after the cleaning process was tried. One has no idea of the amount of dust that will accumulate inside a camera, particularly one of the bellows form.—N. C. Ward, Colorado.

INCANDESCENT GLOBES MADE SAFE: To secure a safe light for developing, too much confidence should not be placed in the red incandescent globes sold by the shops. Even the amber-colored ones may hardly be used for other than bromide paper. Besides, they are not always available, except in the large cities. Ordinary clear glass ones can be made quite safe by giving them three even coatings of celluloid varnish that has been stained to a suitable depth with a mixture of two parts of tartrazine and one of rose bengal. Each coat should be allowed to fully dry before adding the next. The colors should be mixed with the varnish by shaking, after which the clear portion is decanted off.—E. J. Goodwin, New York.

ANOTHER SEPIA TONING METHOD: One often has gaslight and bromide paper prints that are slightly over-exposed or have greenish or dirty brown tones. These can be turned into handsome sepia prints by proceeding in the same way as for the ordinary intensification of negatives with perchloride of mercury. After the prints are fixed and well washed, immerse in a solution of perchloride of mercury until bleached, then again wash well, rubbing away any white deposit on the surface of the print with a wet finger or swab. Then

PARAGRAPHS PHOTOGRAPHIC

transfer at once to a solution of ammonia, about one ounce of ammonia to twenty-five of water, for a few minutes. Wash for about a minute and again place in the hypo bath for two minutes, not longer, and again wash for at least ten minutes. The resultant prints will be brightened up very nicely and have a pleasing sepia tone, particularly if metol-hydroquinone developer has been used and full exposure given.—T. T. Beal, Illinois.

AFTER MANIPULATION OF VARNISHED NEGATIVES: It is sometimes desired to reduce or intensify, either locally or generally, a negative which has been previously varnished, or to which retouching dope has been applied. The varnish can be removed by soaking the negative in turpentine and rubbing gently with cotton. The negative should afterward be thoroughly rinsed in water.—F. B. O., New York.

A PRINT TRIMMING KNIFE: If the photographer does not use a safety razor, he no doubt has many friends who do, and from one of them he can occasionally obtain a few of the used blades. They make most excellent trimming knives if provided with a handle. All that is necessary is to take a suitable piece of small wood and shape one end to make a handle, slitting the other to receive the blade nearly its entire length. If then the blade is inserted in the slit and a small screw put through the slit portion so as to pass through the last hole, or one furthest from the handle end, it will be clamped tightly in position, the cutting edges protruding on each side much as do the flat erasers inserted in the ends of some lead pencils. When the two end corners become dull, the blade can be reversed and two new cutting points are provided.—A. B. Davis, Michigan.

TEMPORARY LENS BOARDS: Every photographer has occasion to test out a lens now and then, and it is convenient to be able to do so without having to order a new front board and fitting the new flange. I have overcome the difficulty of having made a very thick lens board out of soft pine, well blackened inside, and with a large circular opening cut in the center. Then when I have a lens to try out I cut a piece of heavy card,—heavy black mounting board is excellent,—cutting it just a little smaller than the inside of this thick lens board. In the center of this I cut a round hole just large enough to take the thread of the lens mount where it ordinarily engages the flange. The lens, screwed into this hole in the card, fits quite snug, and if the threaded portion is long enough, the flange can be screwed on on the other side of the card as an extra precaution against it falling out. The lens is then passed through the large hole in the thick lens board and fastened in place by means of four good thumb tacks, one at each corner the soft wood out of which the lens board is made permitting of this being easily done.—C. B. Romage, Illinois.

WEATHER-PROOF PHOTOGRAPHS: I thought it would be a good advertisement for the permanency of my work to place a few samples in different places exposed to the weather without any protecting glass, so that the attention of residents of my town could be directed to their lasting quality a few months later. I secured some heavy tin plate and gave it two coats of bathtub enamel. On these sheets I transferred some carbon prints, securing good adhe-

CAMERA CRAFT

sion by putting down the print just before the last coat was perfectly dry. Then the prints were given two coats of white, hard-drying varnish. These prints, having a matted border, looked just like ordinary photographs and have now been out in all weather for over a year. People are surprised to find them withstand the weather so perfectly; in fact, two or three of the samples have been carefully marked by interested parties who believed they are renewed from time to time. The local paper has called attention to them several times, and that, in addition to my regular advertising, has given my business considerable publicity.—J. T. Wilson, Ohio.

REMOVING DRYING MARKS: We are sometimes told that there is no cure for this trouble, once the drying marks have been caused by uneven drying of the negative. However, I have sometimes been able to remove them by giving the negative a long soaking in water and then drying in a cool place where there is a good circulation of air. Another experiment works successfully in some cases, and that is by rehalogenizing the negative, washing well and then redeveloping in an ordinary alkali developer. The bleaching is done with a solution made up as follows:

Potassium bromide	30	grains
Potassium bromide	15	grains
Water	3	ounces
Nitric acid	7½	minims

After bleaching in the above, wash well and then develop with any good developer to the desired depth.—L. A. Fenton, Indiana.

MASK-CUTTING WRINKLE: There are plenty of ready-made printing masks, of almost every conceivable shape and size, to be had of dealers in photographic materials; still, many times one has not at hand just precisely the required form for some particular negative. This necessitates making a special mask for the work in hand. Accurately cutting suitable masks from opaque or needle paper requires considerable pains and skill. To avoid mishaps in cutting, by accidental slipping of straight-edge or ruler, the writer has adopted a simple device which insures accuracy and eliminates spoilage. Procure a smooth board about an inch thick, eight inches wide, and eighteen inches long; the dimensions need not be exact, but the size indicated will be found to be convenient. Hardwood is best, but soft can be used if a piece of zinc is provided for a cutting surface. Put a medium-sized screw-eye in the board a few inches from each end and about the center of the width, screwing them in far enough to be perfectly firm. The distance between can be regulated to suit the length of the longest mask or the cutting guide used. After marking with pencil the cut to be made, place a straight-edge or ruler on the cutting board against the two screw-eyes, slip the paper under the ruler, and when adjusted exactly on the ruled lines, push the ruler tightly against the screw-eyes, press down firmly, and proceed to cut, alternately adjusting the paper for each cut to be made. Properly manipulated, straight, true and clean cutting will result, with no danger of the ruler or the knife slipping and spoiling the work, as so often occurs when making cutouts in the usual manner.—H. Crosby Ferris, Colorado, I. P. A. 897.

CAMERA CRAFT

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No. 3

The Worker Who Succeeds

When we say the worker who succeeds, the thought we wish to convey is not quite clear for the reason that each reader may have a different idea as to just what constitutes success. But we can all agree that the amateur who finds he is making steady progress, finds that he is accomplishing something worth while, finds that he is a more capable photographer this year than he was last, is enjoying a fair measure of success. He has, at least, earned satisfaction, and that is no small measure of success. And how is this all accomplished? The formula is a very simple one; it is simply thoroughness. All that one has to do is to acquire the habit of doing one thing at a time, and doing it well, before taking up some other photographic problem. Let us suppose an average amateur with an average outfit, and with an average amount of experience. He cannot make uniformly good prints, because his negatives are not uniformly good, and they will never be uniformly good until his exposures are uniformly fairly correct. What more simple than to make a firm resolve to master the question of exposure once and for all, and then do so. And think of the amount of good material, not to mention patience, that would ultimately be saved. And mastering the matter of exposure is not so very difficult with the numerous good exposure meters and tables available. There are several hand-books that go into the subject quite thoroughly, and, carefully reading over one or two of them, the worker will be in a position to make a choice as to the meter, table, or system that will best suit his wants. Then it is simply a matter of mastering the one selected. Any of them are good, and any, with the proper care and understanding, will enable the worker to so closely approximate correct exposure that development will automatically, almost, produce good negatives. Let the worker take the meter, or what it may be, and try it out thoroughly, setting aside a few plates or films to be wasted in so doing. And they will be far from wasted, as a moment's thought will show, when one considers the enormous saving that a mastery of the subject of correct exposure will make. Then, that matter settled once and for all, let our average amateur take up the next problem in the same thorough manner. Suppose that, with the care and deliberation expended, but three or four such difficulties be mastered in the course of a year. Even then the advancement made would be many times greater than is possible by the too common practice of driving ahead without any real understanding of the problems involved. We have in mind as we write, a worker, an invalid, with but the most limited income, and yet he is, in a way, one of the best photographers in a city of no small size. He made his own camera and fitted it

CAMERA CRAFT

with a cheap lens. It takes one of the smaller sizes of plates, 4x5 if we remember rightly. On these plates and with this inexpensive outfit, he has made portrait negatives of all his friends who have called during the last few years. These have been printed on home-made blue-print paper and all mounted in an inexpensive album that affords him the greatest pleasure and satisfaction. Each little negative is about as technically perfect as it could well be made. When failure rewarded his efforts, as it sometimes did at the start, the reason therefor was at once studied out, and later a new negative made of the same subject. He has, our invalid friend, spent less for photographic material during his six years' practice, than the average amateur spends in six months. And what of the results? Not long ago one of these friends borrowed the negative of his own portrait with the intention of having an enlarged portrait made by a firm doing that line of work, but, knowing there was a commission allowed, had our invalid friend send in the order. The portrait was so satisfactory that a large number of his other friends followed suit, resulting in a handsome commission. Today our invalid friend has a nice little business making these same little negatives, both for slight enlargement on bromide paper and the more pretentious oil and water color portraits. He would perhaps be entirely at sea with any one of a thousand photographic methods, manipulations, and processes about which the average amateur can talk so glibly, but he is entirely at home in his own work, his small portrait negatives that will print perfectly on blue-print paper, the latter a good test of the quality of a negative. Which all goes to illustrate the advantage of being thorough, of mastering each photographic problem as it arises, and of not trying to do too many things. In other words, the importance of doing a few things well, rather than trying to do any and everything photographic, and doing none of them well.

The Next Inter-Mountain Convention

The Inter-Mountain Association has decided upon April third to sixth, inclusive, as the date for its next or Fifth Annual Convention. There will be a fine program with many new features, including a lecture by Mr. Abel and other "business end" inspirations. In fact, President Dean promises that the business end of photography will be made to predominate, despite the fact that the social features will be better than ever. There is a Grand Prize, open to all, no restrictions or fees, for the best three pictures. Photographers throughout the country should make an effort to capture this prize when the conditions are made so inviting for them. Frank E. Dean, Grand Junction, Colorado, is President, and Leroy Kellogg, 58 Barth Block, Denver, Colorado, Secretary-Treasurer. Either of these officers will give any information desired concerning the coming convention.

Crowded Out

Our usual stereoscopic department was crowded out of this number at the last moment. It will be resumed in the next issue; the large number of letters received assuring us that it is appreciated, and that it is making many converts to this charming branch of photography.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Lantern Slides in Dye Colors

In a recent issue of CAMERA CRAFT I gave an account of my own experiments and results in the Traube methods and its modifications. I now have to note the work of M. L. Lemaire, who employs a quite different method to obtain somewhat similar results. Following the lines indicated by Cros he obtains transparencies in the aniline color consequent on their greater or less absorption by bichromated gelatine that has been exposed to varying amounts of light under a negative. His practical results are embodied in the following paragraphs vide translation in *British Journal of Photography*:

"The method allows for transparencies in colors being made for lantern projection, stereoscopic work, and the decoration of windows. The great advantage of this method over the various toning processes recommended for producing different colors in transparencies is that it is the only one which allows of obtaining a suitable tint by a suitable mixture. The worker is in the same position as the dyer, who, by ringing the changes on his dye bath, secures a whole range of colors on fabrics. Just as is the dyer, we are in the position of reproducing a sample color, or to modify it in any required manner.

"In order to obtain positive transparencies by this plan we can employ one of the two following methods:

"Sensitize a plate coated with a film of gelatine in a bath of bichromate. For this purpose a plate fixed in hypo and well washed may be used. The dyed plate is sensitized in the bichromate bath, exposed behind a positive transparency, washed, and then dyed as directed below.

"The second method is that which we regularly use, since it is simpler and gives better results than the preceding. It consists in making a glass transparency direct in the ordinary way by development, fixing, etc., then placing it in bichromate, drying, and exposing to light.

"In order to determine the degree of exposure, when using this second method, the worker should proceed as follows: A piece of ordinary printing out paper is placed behind the bichromated transparency; when the parts corresponding to the highest lights of the transparency are quite black the exposure may be considered finished. It may be noted that too much exposure is preferable to too little. It now remains only to wash and dye the positive. Whichever of the two above processes are used this last operation is the same.

"The plate is sensitized in the following solution:

Ammonium bichromate..	10 grams
Ammonia, 22 degrees...	50 grams
Water	250 ccs

"This operation is done in daylight, the bichromated gelatine not being sensitive till dry. The plate is then put to dry thoroughly in the dark, after taking off any adhering drops of water, which would produce stains. It is then exposed to light. The plate is then washed until quite colorless, either in ordinary water or, more rapidly, in a solution of about one per cent strength of sodium bisulphite, afterwards thoroughly washing. It now remains to dye the plate.

"For dyeing the plate we employ the following dyes, which give good results as regards taking well to the gelatine, permanence in the light, and richness of tone.

Reds.	Lanafuschine 6 B.....	(Casella)
	Lanafuschine brillante S L.....	(Casella)
Blues	Cyanol d'alizarine B F bro.	
	vete	(Casella)
Yellows	Jaunes pour papier M.	(Meister)
	Jaune solide 2 G L.	(Casella)
	Jaune de quinoeline ..	(Casella)
Bluish Black	Noir amine 4 B.	(Casella)
	10 B.....	(Casella)
	S 4 B	(Aetien)
Violet Black	Noir naphthol.	(Casella)
Greens..	Vert naphthol	(Casella)
	Vert brillant d'alizarine	(Casella)
Violet.	Violet lanacyl B.....	(Casella)

"As will be seen from the table previously given, many other dyes may be used, but in

practice the above are more than sufficient. It is not recommended to dye the plate by plunging it into a dye bath; it is more convenient to work as follows: Prepare two per cent solutions of the various dyes and pour a little of each into a cup, and then, with a soft brush, apply this solution to the plate as if making a water-color wash and without paying any regard to the outlines of the subject. Only the image portions of the positive will take the dye, the whites remaining intact. If dyeing is not quick enough the plate may be slightly warmed by holding it over a gas flame. When it is thought that the dyeing is sufficiently intense the plate is washed and its color can then be modified, or its intensity increased, if thought necessary, by a second application of the dye solution.

"The worker will know that all the various colors may be obtained by employing the three primary dye solutions of red, yellow and blue. If the color obtained is too vivid we can correct this by adding some of its complementary, following the practice of the dyer. For example, we get a green by mixture, or by successive dyeing, with the yellow and the blue. If it is found that the green obtained is too vivid it will be easy to correct this again by giving an application of the complementary of green, namely, red.

"The same procedure is applied in the case of all other colors. Those, perhaps, which constitute the elements of the art of the dyer are sufficiently well known to render it unnecessary to dwell further upon them.

"So far we have applied this process simply to the dye-toning of positives on glass. In the case of prints on paper the process does not give directly a satisfactory result. The whites become colored whatever the degree of exposure to light, and the general appearance is much inferior to that of prints obtained by processes such as carbon, gum-bichromate, or oil. We have likewise endeavored to transfer the color of the plate onto tissues, the transparency acting after the manner of a printing plate. The results obtained show that the process, although giving so far very imperfect results, is susceptible of application in this way.

"Lastly, it is possible to modify the method for the intensification of negatives by using dyes which are of an inactinic color and not subject to alteration in the light. The su-

perimposition of the image of the negative and that of the color produces an intensification which will have the advantage of not coarsening the grain of the image as do most intensifiers.

"In conclusion I must express my thanks to Professor Lemoult, who has kindly lent me numerous samples of dyes for the above experiments, and who, moreover, has rendered me much useful help."

A New Bromoil Bleach

Bromoil formulæ are becoming as numerous as pyro receipts. The following is advised by the editor of *Amateur Photographer* as being cheap and capable of repeated service:

Bromide of potash, 10% solution	4 parts.
Sulphate of copper	" " 6 parts.
Bichromate of potash	" " 2 parts.
Water	40 parts.

A drop or two of pure hydrochloric acid should be added to clear the cloudiness which forms. The solution may be used over and over again, and should be at the normal temperature of sixty-five degrees.

When bleached, the print is given a short wash in water of the same temperature, or up to eighty degrees, according to the amount of contrast required, and then fixed in hypo, three ounces; metabisulphite of potash, one-half ounce; water twenty ounces, used also at a temperature of not less than sixty degrees. After a final rinse the print is ready for pigmenting.

Lantern Slide Binding For Lecturers

The ordinary method of binding lantern slides makes small provision for labeling the individual slides, and none at all for sorting them. The following expedient will, however, remedy both deficiencies in a very simple fashion. In binding the slide black slips are used for the bottom edge and the two sides, but the top edge is bound with a white slip cut as wide as the masking of the slide will allow. When the binding is dry, a brush full of Indian ink is passed over the portion of the white slip that appears on the back of the slides and a black ink line is ruled right label at the top of the front of the slide, and also a white strip at the top edge, all the binding at the back of the slide being black. The slides are then placed in a box in proper order, all facing the same way, and all being arranged with the white edge uppermost. A

A PHOTOGRAPHIC DIGEST

ruler is laid diagonally across the top edges of the slides and a black ink line is ruled right across the lot with either a drawing pen or a brush. This done, it will be found that the sorting and arranging of the slides in proper order is a quite simple matter. If any slide is out of its proper place, that fact can be seen at a glance, because the black line will be broken, while if all the slides are out of the box and mixed up, they can be taken in any order, put in the box, and then be rearranged until the diagonal line is again correct. It is thus possible to resort them without consulting either the tiller or the numbers, a glance at the binding being sufficient to show which way round and which way up each slide should go. The white slip on the face of each slide gives plenty of room for tillers and particulars, while a reference number on the edge will enable us to pick out any particular slide.—*British Journal of Photography.*

Combination Printing With Opaque Pigment

Great simplicity is introduced into combination printing by the use of an opaque pigment, which can be applied to the print to mask the part which is printed first, so as to protect it from the action of light during the second printing. The ease with which double printing is carried out when this method is adopted makes it a matter for surprise that more has not been heard of the process. Perhaps the following details, which are taken from the writer's own experience, may serve to put others on the track and lead them to try their hands at work which certainly enlarges the possibilities of camera work.

The first desideratum is a pigment; it is always a water color, which shall be quite opaque—or at least non-actinic—which shall not affect the sensitive paper to which it is applied, and which, when it has served its purpose, can be cleaned right off without leaving behind it any stain or trace of its presence. The writer uses ordinary water color gamboge, but there are special preparations on the market—"Photopake," "Blox," etc.—which are also suitable for the purpose, and may be preferred by some. One or two fine brushes and one fairly big one will be wanted; no other materials or apparatus of any kind.

The method of using these is perhaps best

explained by giving detailed directions for some specific case of combination printing. A very common one is when the background of a portrait has to be changed, as, for example, when we wish to make a print one particular person out of the group.

The first proceeding, then, is to block out on the negative everything that we do not wish to include in the print. The negative must be supported firmly upon some sloping surface and lit from behind. A retouching desk is, of course, the best arrangement for the purpose; but if the amateur has not got one, he can do without it by some temporary makeshift. I have used a printing frame with the back taken out before now.

The outline of the part that is to be blocked out is very carefully lined out with the finest brush, and the opaque pigment that is to be used, taking care to go into all the corners, but on no account to trespass by so much as a hair's breadth upon the part that is to be printed. This work requires a steady hand and care, but beyond these, it calls for no particular skill. The line, when traced, is widened by one or more strokes of the small brush, and then the big one is used to make it, say, half an inch wide; the negative may then be left for the pigment to dry.

When the work is quite dry a piece of black paper the size of the negative may have an opening cut in it, the shape of and a little smaller than the opaque area, and this is then laid on the negative in the printing frame, to mask all the parts not wanted that have not been masked by the pigment. It is better and less trouble to do this than to paint over the whole surface of the plate. From the negative so masked a print on ordinary p. o. p. is made in the usual way, and will give us the part left bare, with a background all round it of blank white.

The print, when carried to a sufficient depth, must be taken into a room lit by artificial light only, in order to be blocked out. This cannot be done by daylight, as it takes too long, and the paper would darken while the work was in hand; but by gas or lamp-light, or by the electric light, it may be done as deliberately as we wish without any risk whatever. It is best to put the print on some flat surface, and to cover part of it with a clean thin card on which the fingers can rest without fear of marking the print. The image that has been printed is then

painted over, just as was the negative; but in this case, of course, it is the picture and not the blank background that is blocked out. In doing this it is most important not to let the pigment go the slightest bit beyond the picture. Absolute coincidence between the boundary of the picture and the blocking out is best, naturally; but if there is to be any departure from this it is better not to carry the pigment far enough rather than too far. In the latter case, the result is a white line between the picture and its background, which at once reveals what has been done.

The print must be left in the dark to get perfectly dry, and may then be put under the second negative, from which the background is printed in. The pigment on it will prevent the light from acting on the part blocked out, so that the final result will be to give the portrait with the background to it occupying the part left blank by the blocking out on the first negative.

The print is then put to soak in cold water for a quarter of an hour or so to loosen the pigment, and may then be laid face upwards upon a clean piece of glass and be gently rubbed with a clean piece of sponge, under the action of which the blocking-out paint will come off without any trouble, and will enable us to see whether the work has been carefully accomplished or not. If the combined print looks as it should do, the two printings both carried to the proper depth, and the union of the two not being indicated by any defective joins, in the shape of a light or a dark line, according to whether the two images overlapped or did not reach each other, the print may be given two or three more changes of water and then be toned and fixed in the ordinary way.

If a number of prints all alike are wanted, it will be found a great saving of labor to make one and, having got it right, to copy it in the camera, so that the rest may be made by straightforward single printing from the negative so obtained. If the original portrait is a very small one it may be found advantageous to make an enlarged negative of the part that is wanted and of the background, and if the combination print is to be re-photographed, as just mentioned, it is well to make it on a fairly large scale; as, the larger its size the easier it is so to block it out, that when the fresh negative is made on a reduced

scale from the print all signs of the join are lost.

Finally, the negative that was blocked out may, in its turn, be left to soak for a little while in water, rubbed over with the sponge to remove the paint, and then put up to dry. So that the negative is restored to its pristine condition, none the worse for the treatment it has undergone.—Lucas Menken, in *Photography*.

Local Reduction

Lieutenant Colonel Gillespie writes in *Photography* on the subject of the treatment of buried clouds in landscape negatives and advocates their recovery by local reduction by means of Farmer's reducer. He rightly warns against employing a brush for its application and advises the use of a soft sponge the size of a walnut. He does not give the formula for the reducer (which is variously prepared), but, speaking from experience, I would urge the use of a formula containing potassium bromide, say in half the amount of the ferricyanide; it works much more evenly. He draws attention to the following points:

1. The reducer must be very weak, or sharp lines are produced which are difficult to get rid of.
2. Trees, church spires, etc., in the far distance may be ignored, as, even with the backed plates they generally show traces of halation which counterbalance the reduction.
3. Branches, etc., in the foreground must be retouched after reduction.
4. The horizon line need not be worked on very accurately, or very strongly reduced, as the usual tendency of the sky is to be lighter there.
5. Care must be taken that the lightest part of the sky is opposite to the lightest part of the landscape, and not over it.

One may add as a final caution that, if the negative is a valuable one which cannot be replaced, it is advisable to make a duplicate of it before working on the original, as there is always a certain amount of risk in wetting and manipulating a negative; and it might easily happen that a plate, the loss of which would be regretted, might be injured by some slight accident. Against this loss the existence of the duplicate negative acts as a guarantee.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

A Copying Hint

The following suggestion upon copying is furnished by H. G. Harris, whose experience in this work has been great: Place the print to be copied at an angle to a side-light. If the window is near a corner have the copying board facing directly across the corner. Stand directly in front of the print, and if there is any reflection of light shown, turn it further from the light. Use a fairly large stop in the lens and give a full exposure. By the use of the following developer a clear and strong negative can be obtained on a Cramer-Banner plate, and the result will far exceed the old wet-plate process: Metol, fifty grains; hydrochinon, fifty-five grains; dissolve in thirty-five ounces of water; add sulphite of soda crystals, two ounces; carbonate of soda crystals, one and one-quarter ounces; boil well until all is dissolved, and keep as a one-solution developer in a well-stopped bottle. For use, take five ounces of the developer and five ounces of water; add two or three drams of a ten per cent solution of bromide of potassium, and develop well through the plate.

Making Portraits

Although it seems easy to make a portrait, there is nothing more difficult, for the first thing to be borne in mind is that you must represent a person with his proper character and as he appears every day to his friends.

Avoid, if possible, making full-length photos of a man. Our apparel is inartistic and every line angular. Full-length pictures of ladies are easier made. If the body be turned a little and the head placed in another direction, a pose with animation will be secured. There is great variety to be obtained from this pose as a beginning.

As to expression, the best way to obtain what is to be desired is to take the expression yourself. Man is an imitative animal, and sorrow or joy is contagious.

All subjects cannot be lighted the same.

For example, a child's face should be brightly lighted, with soft, well graduated shadows; that of a man requires more contrast of light and shade, and the stronger the character in the face the stronger lighting it will stand. One should avoid falling into exaggeration in the treatment of light, "a la Rembrandt," for it is the most difficult of all methods. Black and white patches are not Rembrandts, for, while it was the great master's method to place the brightest light against the darkest shadow, yet every shadow is transparent and has its half shades. Again, there is nothing in a face which is entirely white.

In a portrait there must be one light only illuminating the entire picture, although it is no uncommon thing to see professional work with interior and landscape grounds lighted from one direction and the portrait from the other. This is an inexcusable absurdity.

The light must fall from top, side and front. It is not necessary that there be direct light from all three sources, for by the use of tracing cloth, which makes an excellent reflector, one can rig up two or three screens so that they may be adjusted by pulleys and string from the ceiling and work with a side light only. The color of tracing cloth, being slightly blue, seems to give more actinic power to the reflected light than does plain white cloth.

A top light only makes the wrinkles too pronounced and the eyes appear sunken and without expression. Also, a pure side light is objectionable, for the reason that the modeling is lost and the form of the features exaggerated. Both the lighted and shadow sides of the face are flat and all resemblance gone. It follows from the foregoing that a direct top-side light is requisite, with reflectors on the opposite side to soften the shadows. This is the ground principle, and is subject to as many modifications as

CAMERA CRAFT

the subject may require or the photographer's fancy dictate.

Suppose one is using only a single window with a roller curtain from the top; the first requisite is to soften the direct light by covering the window with tracing cloth or with plain starch paste, which may be easily removed. Top-front light can be obtained by stretching two widths of tracing cloth from the top of the window casing to the ceiling, about five feet away and down at an angle of about forty-five degrees, to within six feet of the floor. A little trouble and a few strings will accomplish this. For a side reflector, throw a sheet over a clothes horse.

The nearer opposite the window you seat your subject the stronger the side light, and the farther back the more will be the front-top light. A round face requires more side light and little front light; a thin face should have more top and front light. You will notice that the top light may be regulated by pulling down the window curtain a foot or two.

The so-called Rembrandt effect in profile is obtained by placing the subject in front of the source of light, in such a position that the camera points almost at the light which falls over the shoulders and lights up the profile. In this lighting the reflector must be used judiciously or the face will lack roundness.

A three-quarter portrait is always the easiest and really the most pleasing. It should generally be made with the head turned away from the light, for, if turned toward it, there is apt to be too much front light, making the face appear flat and causing a bad light in the eyes. In an elaborate studio this defect can, of course, be remedied.

A profile can be lighted nicely by bringing the subject opposite a window, turning the head partly away and placing the camera nearer the window side. This allows a portion of the light to fall back of the figure and the relief is good.

One rule must be strictly followed, and that is, to light the eyes from one side only, and that on the side from which the light comes, carefully avoiding any secondary light from the other side, for in this way only will the eyes have light and animation. It is well to study the works of the old mas-

ters, to see how the position of the eyes will portray love or hatred, joy or sorrow.

If the sight be directed into the lens the result will be one of those pictures with eyes that seem to follow you all over the room. Let your sitter blink the eyes naturally during the time of exposure, which should be of sufficient duration to obtain detail in the shadows, letting the high lights take care of themselves.

Lastly, the developer should be a soft or diluted one, not too rich in the active agent. The use of a weak developer takes a longer time, but allows the shadows to build up without making the highlights too chalky.

Printing On Silk and Other Fabrics

To obtain satisfactory prints on silk, satin, linen and other fabrics, it is essential that the material employed be pure and not "loaded" with metallic salts. It is also necessary to employ methods which do not destroy the characteristic softness and texture of the cloth, particularly so with silk and satin. The best results cannot be obtained if the image is contained in some film on one surface of the silk; it should be well incorporated in the silk itself. The most satisfactory results, and the finest tones, rich blue-blacks, have been secured by the following methods: The fabric is immersed in a filtered solution of five parts of Iceland moss and ten parts of ammonium chloride in five hundred parts of water, then passed between the rubber rolls of a perfectly clean wringing machine (an ordinary washing wringer will answer) taking care to avoid folds and creases, and hung up to dry in a warm room. It is next immersed in a bath prepared by mixing in equal volumes, just before use, a solution of sixty parts of nitrate of silver in one hundred parts of water, passing through the rollers of the wringer and dried in the dark. Print just the depth desired in the finished print, and use a woollen cloth or piece of heavy felt behind the silk in the frame to act as a support and facilitate examination during printing. Wash well and tone in ammonium sulphocyanide, thirty parts; potash alum, thirty parts; ammonium carbonate, one part; gold chloride, one part; water twenty-two parts. Fix as usual with paper prints and thoroughly wash. When the print is nearly dry it can be ironed with a warm iron.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The California Albums

The California Album Director wishes all those who would like to be represented in the Fourth California Album to send prints to reach him by the earliest possible date. The Third California Album is receiving very favorable comment in Pennsylvania, where it was sent after circulating at home. Send your prints addressed: W. E. Thomson, 3211 School Street, Fruitvale, California.

The Illinois Album

Report from the Illinois Album Director says that Illinois Album No. 6 is well around the route, and he is desirous of receiving prints for the next following one. Illinois members should send him prints at once so as to do their part in making this next album larger and better than any that have yet been sent out. Send prints, two or three of your best ones, to George A. Price, Summit, Ill.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Harry Gordon Wilson, Director Stereoscopic Division, 4954 Washington Ave., Chicago, Ill.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Mouthrope, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

NEW MEMBERS.

3175—J. F. Neal, 5715 Easton St., St. Louis, Mo.

2½x4¼, 2½x7, 4x5 and 5x7, developing papers, of parks, views, and scenery; for the same. Class 1.

3176—C. W. Jenkin, Box 292, Grass Valley, Cal. 3¼x5½, 4x5, and 5x7, developing papers, of views, also mountain and mining scenery, etc.; for anything of interest. Class 1.

3177—Harry J. Kaufmann, 149 W. Windsor St., Reading, Pa. Class 2.

3178—Burton H. Wood, 59 Center St., Ellenville, N. Y.

4x5, just starting in. Class 1.

3179—Lorimer H. Dixon, Box 765, Danielson, Conn.

2¼x3¼, developing paper, of landscapes, and personal photos, also inside views; for landscapes especially, also photos of persons. Post cards only. Class 1.

3180—Arthur B. Neeb, Pathologist City and County Hospital, St. Paul, Minn.

3¼x5½, 6½x8½, and 8x10, developing and printing-out papers, of Pathology subjects, color plates (Autochrome, Diopochrome, and Tripack); for miscellaneous subjects. Class 1.

3181—Friend Hoover, Box 14, Ellsworth, Kan.

3¼x5½, developing paper, of buildings; for buildings and scenery. Class 1.

3182—William Francis Weed, 5 St. John Place, New Canaan, Conn.

Class 2.

3183—Hubert J. Rowe, 118 Park Ave., Newark, N. J.

Class 2.

3184—J. Fred Fehr, 149 Brainerd St., Naperville, Ill.

Class 3.

3185—J. L. Heald, R. F. D. No. 2, Box 18, Grand Junction, Colo.

5x7, 4x5, and post cards, developing papers, of Colorado and California scenes, Garden of the Gods, character studies, portraits, and general all-around work; for anything interesting. Class 1.

3186—George S. Higby, 190 W. Date St., Riverside, Cal.

Class 2.

3187—Willis W. Vail, Beech Fork, W. Va.

Class 3.

3188—H. E. Walrond, 1743 L St., Fresno, Cal.

3¼x4¼, developing paper, of mountain scenes; for anything interesting. Class 1.

3189—W. R. Davison, R. F. D. No. 3, Brighton, Iowa.

3¼x5½, developing paper, of landscapes, buildings, and miscellaneous views; for mountain scenes, street views, and anything of general interest. Class 1.

3190—Otto Lux, R. F. D. No. 2, Box 8, Rising City, Neb.

Up to 5x7, developing paper, of landscapes, street scenes, and, in fact, anything of general interest in this part of the country; for post cards of anything interesting. Good work in post cards or prints unmounted. Class 1.

3191—L. Seymour Smith, 1207 Gough St., San Francisco, Cal.

Class 2.

3192—Raymond Paton, 613 California St., Newtonville, Mass.

5x7, developing and printing-out papers, of miscellaneous subjects, for mountain scenes, speed work, or pictures of ranch life. Class 1.

CAMERA CRAFT

- 3193—E. A. Francis, 7 W. Lincoln St., Marshalltown, Iowa. Class 2.
- 3194—Hans Flo, 526 Broadalbin St., Albany, Ore.
3¼x4¼, developing paper, of scenery, etc.; for scenery, and historic places. Class 1.
- 3195—Aug. Ruhren, 72 North 7th St., Paterson, N. J. Class 2.
- 3196—C. E. Graves, Sunnyside, Wash.
Post cards, developing paper, of mountain scenery; for anything of general interest. Class 1.
- 3197—Nellie B. Brennan, Trueman, Pa. Class 2.
- 3198—John H. Helman, Box 262, Shoshone, Idaho.
5x7, 3¼x5½, and stereo, developing papers, of exteriors and mountain scenery; for landscapes and exteriors. Desire to exchange principally stereos. Class 1.
- 3199—A. G. Campbell, Jr., R. F. D. No. 2, Box 79, Sycamore, Ill. Class 2.
- 3200—A. H. Parrish, Sodaville, Ore. Class 2.
- 3201—Miss Leona B. Stout, Claysville, Pa.
From post card size to 8x10 portraits, developing paper, of studio pictures of women and children; for portraits any size to 8x10. Prefer to exchange portraits or groups. Class 1.
- 3202—Wayne Putnam, Cuba, Neb.
6½x8½, 3½x8½, and 3¼x5½, developing paper, of views, show scenes, etc.; for views, camp life, hunting and fishing scenes. Class 1.
- 3203—C. B. Powell, M. D., Lock Box 70, Madison, Minn. Class 2.
- 3204—Harry A. Miller, Keating Summit, Pa.
3¼x5½, also 2¼x3¼, developing papers, of Austin flood, scenery, local views, hunting, groups, and snow scenes; for miscellaneous subjects. Class 1.
- 3205—Clifford Hampton, Box 805, Western, Neb.
Post cards, developing papers, of prairie scenes, moving trains, children, and horses; for anything of interest. Class 1.
- 3206—J. G. Kinner, Box 65, Hazard, Ky.
5x7 and smaller, developing paper, of scenery, mountain, and miscellaneous views; for the same. Class 1.
- 3207—W. R. Talbot, Narrandera, N. S. W., Australia. Class 2.
- 3208—Chas. L. Noss, Box 395, Manor, Pa. Class 2.
- 3209—Frank Wallace, 501 N. Sheridan Ave., Ottumwa, Iowa.
3¼x5½, developing paper, of views; for the same. Class 1.
- 3210—H. A. Thomson, 58 Clinton St., Springfield, Vt.
4x5 to 5x7, various papers, of characteristic New England views; for similar views of Northwestern States, Oregon preferred. Class 1.
- 3211—C. K. Conwell, Box 383, Altus, Okla.
4x5, developing paper. Class 1.
- 3212—Gerald L. Massey, Big Eddy, Ore.
3¼x5½, developing paper, of mountain and timber landscapes, also construction crews; for lanscape, water, etc. Post cards only. Class 1.
- 3213—Bernard A. Devoto, 2561 Monroe Ave., Ogden, Utah. Class 2.
- 3214—Ernest J. Beyer, Box 356, Bisbee, Ariz. Class 2.
- 3215—C. M. Brantner, Asotin, Wash.
Post cards. Class 1.
- 3216—Archie G. Sprout, Picture Rocks, Pa.
3¼x5½ and 3½x3½, various papers, of mostly forest and outdoor scenes; for forests, landscapes, animals, birds, and camp life. Postals or prints. Class 1.
- 3217—Martin L. Thompson, R. F. D. No. 2, Ellsworth, Iowa. Class 2.
- 3218—W. J. Gagnon, R. F. D. No. 1, Box 89, Pittsford, Vt.
Post cards and 5x7 prints, developing paper, of mountain scenery, landscapes, river scenes, public buildings, street scenes, and scenes of general interest; for anything of equal interest. Only good work accepted and sent. Class 1.
- 3219—Division Street Y. M. C. A. Kamera Klub, Room 243, 1621 W. Division St., Chicago, Ill.
Up to 5x7, developing papers, of all kinds of photos; for the same. Good work for good work. Class 1.
- 3220—H. G. Charlton, 41 Lyon St., Naples, N. Y. Class 2.
- 3221—M. H. Arnold, R. F. D. No. 4, Toronto, Kansas. Class 2.
- 3222—Clyde Carpenter, Box 6, Irwinville, Ga.
3¼x5½, developing paper, of outdoor scenes; for figure studies true to life. Class 1.
- 3223—Chas. H. Mathews, 838 North Kansas Ave., North Topeka, Kans. Class 2.
- 3224—Floyd L. Smith, Box 80, Ferrysburg, Mich.
5x7, developing paper, of winter scenes, Lake Michigan shore, harbor views; for country scenery of interest from West and South. Post cards only. Class 1.
- 3225—O. G. Brauer, Millville, Cal.
Post cards, 3¼x4¼, and 5x7, various papers. Class 1.
- 3226—Russell G. Knight, 213 Amber St., Pittsburg, Pa. Class 3.
- 3227X—Vern R. Huff, R. F. D. No. 4, Chagrin Falls, Ohio.
4x5, 5x7, developing papers, of miscellaneous views; for anything of interest. Post cards preferred. Class 1.
- 3228—Mrs. S. B. Langworthy, 1250 High St., Leavenworth, Kans.
3¼x5½, developing and printing-out papers, of general views of Great Lakes, also scenery in Kansas, Louisiana and Mississippi; for mountain scenery and water. Class 1.
- 3229—C. A. Hetherington, Lock Box 520 West, Des Moines, Iowa.
4x5, developing paper, of city and landscape views; for any good pictures that would be of interest to a stranger. Class 1.
- 3230—Lewis D. Capen, Box 24, Millbrook, Mich. Class 3.
- 3231—John A. Miller, 1084 S. Broad St., Trenton, N. J.
To 11x14, various papers, of portraits; for the same. Studio work only. Class 1.
- 3232—Mrs. Lizzie M. Moffatt, Wheaton, Ill.
4x5, developing paper, of higher fungi and spiders; for the same, U. S. species only. Class 1.
- 3233—James R. Leverett, 1295 E. Pierce St., Council Bluffs, Iowa. Class 2.
- 3234—D. M. Ward, Box 34, Braman, Okla.
Post cards, cabinets, stereos, and 5x7, various papers, of persons, animals, groups, and anything ordered from me; for anything. Class 1.
- 3235—Carroll M. Smith, 1510 Ave. H, Brooklyn, N. Y. Class 2.
- 3236—Chas. C. Price, R. F. D. No. 3, West Liberty, Ohio.
Post cards to 6½x8½, printing-out paper, of general and comic views; for country scenery, etc. Post cards and 4x5 prints. Class 1.
- 3237—Midge Waterbury, Box 682, Kalispell, Mont.
3¼x5½, post cards, developing paper, of animals and scenery; for the same, especially horses and deer. Class 1.
- 3238—Clyde W. Howser, Box 495, Groton, N. Y. Class 2.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

- 3239—W. D. Kyle, 1117 Maumee Ave., Fort Wayne, Ind.
Up to 5x7 and post cards, various papers, of genre, landscapes, river views and unusual nature pictures; for the same or mountains, marines or genre. Class 1.
- 3240—James Belwood, 371 W. Summit St., Marshall, Mo.
3¼x4¼, 3¼x5½, and 5x7, various papers, of farm and country scenes, in Missouri State, and fair views; for mountain views, and any kind of scenery, especially marine. Class 1.
- 3241—Dorr D. Peake, Portland, Mich.
Class 2.
- 3242—A. P. Snider, Box 249, Marion, Va.
6½x8½, developing paper, of country scenery, mountain views, street scenes, and buildings; for the same. Class 1.
- 3243—Vollie Lewis, Fort Benton, Mont.
3¼x5½, developing paper, of old ruins, mountain scenery and other natural scenery; for mountain scenery only. Class 1.
- 3244—John Walmer, Little, Nebr.
3¼x5½, developing paper, of scenery and comic post cards; for the same. Post cards only. Class 1.
- 3245—Jonas S. Bergmann, Box 34, Gardar, N. D.
Class 2.
- 3246—Mrs. A. L. Osmun, Spearfish, S. D.
Up to 5x7, developing paper, of Black Hills scenery, babies, mining scenes, and a few from Wyoming and California. Prefer to choose localities yet if written to and the offer suits, will accept it. Class 1.
- 3247—Wm. W. Meirs, School Lane, Germantown, Philadelphia, Pa.
Up to 7x5, developing paper, of flowers, speed, hunting, and foreign scenes; for anything except local views and groups. Class 1.
- 3248—Jas. A. Nelson, Box 312, Escondido, Cal.
Class 2.
- 3249—H. C. Collings, Box 3456, Lowell Sta., Bisbee, Ariz.
Class 2.
- 3250—Julius H. Preston, Jr., 120 Lloyd Ave., Providence, R. I.
Class 3.
- RENEWALS.
- 1362—Ira G. Christensen, Monte Vista, Colo.
Stereoscopic views, unmounted on developing paper of Western scenery. Exchange wanted with good workers only. Class 1.
- 1854X—Burdette Harrison, 210 Lock St., Tarentum, Pa.
Post cards and 3¼x5½ prints, of landscapes, water scenes, and views of interest. Good work received and given only. Class 1.
- 1865X—Chas. W. Davies, Box 148, Lake Charles, La.
3¼x5½, and post cards, various papers, of bayou, lake and river views, landscapes, and genre; for pictorial and anything of general interest. Class 1.
- 2176X—Phil A. Friedell, Box 41, Victor, Mont.
Stereo and post cards, printing-out and developing papers, of landscapes, marines, animals; for the same. Class 1.
- 2211—E. G. Overholt, Box 335, Station B, Selkirk Fence Co., Hamilton, Ont., Canada.
3¼x5½, and post cards, developing papers, of landscapes, water scenes, ravines, and miscellaneous subjects; for any good work. Class 1.
- 2246X—L. E. Millea, 357 Main St., Norwich, Conn.
Class 2.
- 2305—W. S. Marion, E. 1410 13th Ave., Spokane, Wash.
4x5, various papers, of landscape and genre; for the same. Prints no post cards. Class 1.
- 2335—Clude A. Dunton, Mercer, Maine.
4x5 and 5x7, developing paper, post cards only. Class 1.
- 2336—Alfred H. South, 6 East Front St., Media, Pa.
2¼x4¼, and 3¼x5½, developing papers, of country scenes, for home portraits, historical views, and general subjects, also freaks. Class 1.
- 2346—P. B. Speed, 1503 Pierce Bldg., St. Louis, Mo.
5x7 and smaller, developing paper, of miscellaneous views; for the same. Post cards only. Class 1.
- 2353—Ed. Bernier, St. Anne, Ill.
5x7, 6½x8½, and post cards, developing paper, of inland lake views, rural subjects, farm scenes, some animals, etc.; for mountain views, sea views, and anything of interest. Good work for good work. Class 1.
- 2387—Frank J. Horton, Goodland, Kans.
Post cards, all kinds of paper, of speed, farm scenes, and children; for anything. Post cards only. Class 1.
- 2439—Perry A. Wilson, 227 Gates Ave., Elyria, Ohio.
Class 3.
- 2499—Andrew Schoeppler, 1647 Fisher Ave., Detroit, Mich.
Post cards only. Class 1.
- 2562—Z. T. Rawlston, Route 1, Hixson, Tenn.
Post cards only. Good work for good work only. Class 1.
- 2565X—E. V. Bargamin, Elk City, Idaho.
Post cards, prints, and stereos, of nature studies; for the same. Class 1.
- 2730—A. Ray Welker, 308 North 5th St., Marshalltown, Iowa.
5x7 down to 4¾x4¼, various papers, of general views; for anything good. Post cards only. Class 1.
- 2740—Dale F. Stansbury, Box 253, Williamsport, Ind.
3¼x5½, various papers, of landscapes, scenery, street scenes, historical places, etc.; for any kind, especially historical and other interesting views. Class 1.
- 2787—Dr. Collins Yerxa, 1204 W. 4th St., Williamsport, Pa.
5x7, 4x5, 3¼x5½, and post cards, developing papers, of park, forest and river scenes, also children and all kinds; for pretty girls, and children in natural background. Class 1.
- 2795—Harry A. Johnson, Box 515, Simcoe, Ont., Canada.
Class 2.
- 2803—W. H. Hawkins, 3504 Union Ave., Chicago, Ill.
Post cards only. Class 1.
- 2810—C. L. Fuller, 901 West 3rd St., Sioux City, Iowa.
4x5, developing paper, of landscapes, public buildings, and anything of interest; for the same. Post cards only. Class 1.
- 2815—Otto A. Jakoubek, Letter Carrier No. 98, Milwaukee, Wis.
Class 2.
- 2823—Karl Zimpfer, Walker, Iowa.
3¼x5½, developing paper, of general subjects; for the same. Class 1.
- 2824—Samuel W. Wenger, Knob Noster, Mo.
Class 3.
- 2835—Frank M. Remster, 69 Myrtle St., Bridgetown, N. J. Class 2.
- CHANGES OF ADDRESS.
- 1897X—Hubert C. Mohr, 711 Cuyahoga Bldg., Cleveland, Ohio.
(Was 1801 East 86th St.)
- 2163—A. R. Cumberland, 930 H St., Sacramento, Cal.
(Was 1710 F St.)
- 2891—M. L. Myers, 1415 West 4th St., Sedalia, Mo.
(Was just Sedalia.)
- 2965—Rev. Jos. S. Hirner, Fulton, Mo.
(Was St. Louis, Mo.)
- 3096X—David Gibb, care Simmonds Studio, W. Gambler St., Mt. Vernon, Ohio.
(Was 209 W. Vine St.)
- 3102—P. Austen, R. F. D. No. 3, Box, 23, Meridian, Miss.
(Was Calvert, Ala.)
- 3152—L. C. Kenyon, Hugo, Okla.)
(Was Cooper, Texas.)
- WITHDRAWAL.
- 2141X—W. M. Horton, Osage, Okla.
(Was Tupelo, Okla.)
- On account of moving and change of occupation, am not able to keep up exchange, but will pay back any not answered, if they will drop me a postal.

Photographers' Association of America

At the call of the President, Ben Larrimer, the Board of Officers of the Photographers' Association of America met in conference at the Bellevue-Stratford Hotel. Ben Larrimer, President; Charles F. Townsend, First Vice-President; Will H. Towles, Second Vice-President; L. A. Dozer, Treasurer; Manly Tyree, Secretary. In addition to all the officers, Messrs. Core, Hayes and Harris were present by invitation of the Board.

The day, January seventeenth, was spent in discussion of broad plans for the next convention, the Board going into executive session the next morning. President Larrimer appointed Messrs. Townsend and Towles as Auditing Committee to pass on the Treasurer's and Secretary's books. The committee reported that the books and vouchers were in order, and their report was accepted by the Board. President Larrimer then appointed the following committees: Hotels, Towles; Decorations, Tyree; Official Button, Dozer; Association Record, Towles; Entertainment, Executive Board; Transportation, Townsend; Press, Towles, Harris, Proctor and Holloway; and Printing and Advertising, Larrimer. The Information Executive Board—International Exhibit: By unanimous vote of the Board, Clarence M. Hayes was selected as special Commissioner to collect exhibits from foreign countries.

After careful consideration of various locations offered by the City of Philadelphia, the Board selected Horticultural Hall.

It decided upon the week of July twenty-second as the date, and that the 1912 Convention shall open officially on Monday, July twenty-fourth, being held from Monday to Saturday inclusive.

The Board decided to publish "The Association Record," to contain the complete proceedings of the 1912 Convention and Congress, with the revised constitution and complete list of membership, and to be illustrated by pictures, selected by a jury appointed by the Board, from the 1912 exhibit, and a copy to be mailed to every member within thirty days after the closing of the Convention. Every professional photographer in America is invited to send an exhibit of one or two pictures, all exhibits to be delivered prepaid in Philadelphia on or before

the morning of July fifteenth. A jury, appointed by the Board, will reject pictures of insufficient merit. All pictures will be cataloged and hung prior to the opening of the Convention.

Practical demonstrations of modern methods will be given, and the Fourth Annual Congress of Photographers will hold sessions during the Convention.

On petition presented by the President and Secretary of the Womens' Federation, the Board allotted the sum of five hundred dollars, to be used in defraying expenses incurred in collecting and preparing their exhibit and in increasing their membership and influence. Spaces in the Convention Hall, sold to the manufacturers and dealers, will be provided with booths and decorations, at the expense of the Association.

Wednesday, July twenty-fourth, will be "Atlantic City Day," complimentary tickets being furnished all members through the Treasurer's office. These tickets will include transportation, luncheon, bathing, admission to pier and other entertainments.

The amendment to the Constitution relating to the active membership of others than studio owners, referred by the Congress to the Board for interpretation, was ruled upon as follows: No member in good standing shall be deprived of membership by retroactive amendment, and that all ruling by the Congress to the contrary is unconstitutional, and, therefore, null and void.

MANLY W. TYREE, Secretary, P. A. of A.

Hall Cameras a Feature

One of the most interesting features of the Sportsman's Show, which opens at Madison Square Garden on March first, will be the exhibit of the Hall Camera Company, consisting of an elaborate display of Autochromes and transparencies made with the Hall Mirror Camera. The well-known device for exhibiting the Hall shutter in operation will also form an attractive feature of the display which, at the present time, seems to be the only photographic show scheduled for this important event in sporting circles. Mr. Hall will be in attendance personally, and invites all of his photographic friends to visit him at the Hall booth.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Increased Interest In Flashlight

One of the most pronounced tendencies observable in present-day photographic practice is that toward the increased employment of the flashlight and the articles in our pages during the recent winter have echoed this activity. The article in this issue, the one by Mr. Southworth, taken in connection with the examples shown, should do much to interest those who have not awakened to the value of flashlight as a business and profit-maker. And our advertising pages also reflect the same increased interest with its numerous announcements of flashlight powders and lamps. Still another assurance is the report just received from the Charles H. Nichols Company, that the present season has been exceptionally good, so much so in fact that they have neglected to advertise as usual. This, they admit, is a mistake and enclose copy for an advertisement that will be found in this issue. The flash lamps and powders, the product of this firm, have enjoyed a great popularity for a number of years, an ever increasing popularity, we should have said. Simply address, The Charles H. Nichols Company, St. Louis, Missouri, and ask for descriptive circulars. They are sent free upon request.

Look It Up

Special attention is called to the small advertisement of Charles H. Loeber on another page. The firm is one of the oldest in the business of catering to the wants of discriminating amateurs and the small space used for their initial announcement is merely in the nature of an experiment. Years ago when amateur photographers were not so plentiful, the firm published a photographic magazine, and a good one, the old *Photo American*. At that time one or two thousand was quite a circulation for a photographic magazine and advertising was much less effective and correspondingly less expensive. This explains their cautious trial of a small space, space that in no sense conveys an idea of the standing of the firm or the

quality of the service rendered. Drop them a line asking for prices and try them with a film or glass plate negative; you will be surprised at the quality of their enlargements. We have seen some of their work and it is exceptionally fine. Address Charles H. Loeber, Department C. C., Flatiron Building, New York.

Roylon Advantages

We have recently had the pleasure of trying Roylon as a developer to be used in connection with hydroquinone for some prints on developing paper. We did this for the benefit of a friend, a busy professional, and one of those unfortunate individuals who are more or less affected by some developers that have an irritating effect upon their hands. Upon showing him the prints made as a result of our trial, he immediately ordered some Roylon for his own use. The makers, the Eastman Kodak Company, believe they have overcome the difficulty confronting those workers whose hands are prone to trouble from developing solutions. Used in connection with hydroquinone, Roylon gave us very fine prints of full gradation and most pleasing tone and brilliancy. Even if one is not troubled in the manner mentioned above, this excellent new developer should be given a trial.

Camera Accessories

The Seneca Camera Manufacturing Company, of Rochester, New York, is conceded by camera users to be one of the most progressive in the matter of advanced ideas in camera construction, attachments, and accessories. Among the many products of their experts are Seneca Simplex Plate Holder, Seneca Adjustable Plate Holder, Seneca Film-Pack Adapter, Seneca Multiplying Attachment, Seneca Double Sliding Division, Seneca Revolving Back, and Seneca Reducing Back. Of these the last two are attracting considerable attention at this time. The Seneca Revolving Back enables the camera user to take vertical or horizontal pictures at will, without altering

the position of the camera itself. The Revolving Back always remains closely and securely attached to the camera box. No amount of manipulation in any position will dislodge the plate holder or back from the camera. Fogging the plate is impossible.

A catalog of Seneca Cameras and their accessories will be mailed free on request, if the reader will address the Seneca Camera Manufacturing Company, Rochester, New York, and mention this publication.

Reported by William Wolff

John Ross of Santa Rosa reports a very fine January business.

Miss E. P. Freeman of Napa, who has been quite ill the past month, has reopened her studio.

The Webb Pharmacy at San Jose, now has one of the best amateur finishing departments, having just finished some very extensive alterations and improvements therein.

Fred Hartsook has just bought a new Buick automobile.

Strye Studio in the Mission, has just opened a down-town branch on Market Street, opposite Taylor.

Mr. Seely of the Bushnell Studio at San Jose was hastily summoned to Eureka on February seventh. Can't tell, at this writing, which.

A Bene, the Fillmore Street photographer, has just added a new accessory to his studio, a girl.

Worth Having

Herewith is a reproduction of the cover of a very interesting little booklet recently issued by the Wollensak Optical Company for distribution through photographic supply dealers. It touches in an interesting way upon lenses in general and also gives an honest and concise answer to that puzzling question, "What type of lens is best for my purpose?" The first part of the booklet is taken up with an explanation of the speed of lenses, diaphragm apertures and their use, going on to explain the relative exposures of different stops, depth of field, definition and how regulated, and how to focus correctly for landscapes, groups, etc. It takes up the different kinds of work and in an interesting way tells why one type of lens is best suited for a particular kind of work. Copies can be obtained gratis from any photographic supply dealer



in this country or Canada. Should any of our readers have any difficulty in obtaining one a copy will be sent direct by the Wollensak Company upon receipt of their request and the name of their dealer.

Metol Hauff—Great Reduction in List Prices

Our readers will be pleased to learn of a reduction of nearly one-third in the list prices of Hauff's celebrated Metol, Ortol, Amidol and Glycin developers, which removes, at once and forever, the question of cheaper substitutes.

Metol-Hauff is now, as may be readily seen, absolutely the best and cheapest developer used with Hydrokinone at the most common percentage of one to three; it costs about as much as Hydrokinone did ten years ago and it is almost impossible to figure down to decimals the cost of developing a print.

We strongly urge photographers to take advantage of this great reduction in price by being more liberal in the use of this wonderful developer, as it is really surprising how great is the improvement in detail and softness where a larger percentage of Metol-

NOTES AND COMMENT

Hauff is used in the developer—try the proportions of one to two, or even equal parts which now cost no more than the one to three proportion, so generally in use up to this time.

Messrs. J. Hauff & Company urge their patrons to beware of mixtures offered at cheaper prices, with a plea that they save the photographer the trouble of mixing his Metol with Hydrokinone—or weighing separately, as there is no guarantee that they will receive any Metol-Hauff in such mixtures.

Metol-Hauff should not be purchased in any but the original packing, so well known in the trade for the past twenty years. Look for the little white ticket on the bottle, which bears the name of the American Agents, the well-known Photographic House of G. Gennert, 24 and 26 East Thirteenth Street, New York, and 320 South Wabash Avenue, Chicago.

Some Interesting Prices

We have just received "Bargain Sheet No. 21" from Wright of Racine, Wisconsin. It contains some very inviting prices and these, coupled with Mr. Wright's well known reputation for fair dealing, make the list one well worth obtaining and looking over for goods that may be needed when spring opens. A copy will gladly be sent upon request. Address, Wright, Racine, Wisconsin.

The Montreal Exhibition

The Montreal Amateur Athletic Association Camera Club holds its Sixth Annual Exhibition of amateur work from April eighth to thirteenth, inclusive. The success of last year's Exhibition was materially greater than heretofore, by reason of its broader scope, including as it did many European entries, as well as an increased number from United States and Canadian points. Enquiries received lead the Committee to believe this coming Exhibition will be still more meritorious than the earlier ones.

Entries are invited for the following openclasses: "A," Figure Studies, prizes silver and bronze plaques; "B," Landscapes, prizes silver and bronze plaques; "C," Water-scapes, prize bronze plaque, and "D," Genre, prize bronze plaque. In addition, certificates of merit will be awarded at the discretion of the judges. No entry fee

is charged. Entry forms and any further information will be supplied upon application to the Secretary, P. S. Robinson, 250 Peel Street, Montreal, Canada.

Illinois College of Photography

The college has a college paper, *The Bissellonian*. It has been established by the students of both colleges, and is under the management of a board of editors chosen from the student body. The engravings, designs and illustrations will be students' work, and they confidently expect to excel any college paper in the country in these features. It is issued monthly, the first number appearing in December.

About sixty of the students and faculty organized an excursion to St. Louis last month and secured the regular summer excursion rates over the Pennsylvania Railroad. As this was to be the last trip for the year it was made a thorough one, the party visiting the Cramer Dry Plate factory, Strauss Studio, Conkling Studio, Roasch Studio, the St. Louis Hyatt Photo Supply Company, the engraving plants of Woodward & Tiernan, and Sanders Engraving Company, and the visiting was enlivened by plenty of refreshments and entertainment.

Garo Kawano, who has been absent the past summer, has returned to finish his course in photography. Also Fred Lensink, who has been spending the past month at home, has returned to resume his work. He was accompanied by his brother, who will also enroll in the photographic course.

"Photography Outdoors"

A handsome little book of some sixty-four pages and bearing the above title has just reached our desk from the publishers, Tennant & Ward, 122 East Twenty-fifth Street, New York. There are thirteen chapters, including such subjects as Landscape Composition, Sunset and Moonlight Scenes, Marine Photography, Snow and Frost Pictures, Panoramic Views, and Outdoor Sports. The price is twenty-five cents, obtainable from all dealers.

"Photography At Home"

Uniform with the last mentioned book is another with the above title. The Home and Its Possibilities, Home Interiors by Daylight, Home Portraiture, Enlarging, copying, Prints on Fabrics, and Imitation Enamels are a few of the chapter titles

CAMERA CRAFT

The price is the same and all dealers will supply copies.

With the Camera

A new Bogue flaming arc lamp has been added to the printing equipment at Engraving Hall. The new lamp is a great time-saver.

Professor Killen, of the engraving department, is building a fine new bungalow on Lawrence Avenue, which he expects to occupy in a couple of months.

The class in X-Ray work recently photographed a surgical operation at the hospital, showing a beating human heart, perforated by a bullet. The picture, though hardly to be described as beautiful, was very interesting and unique, especially as the subject has since recovered.

Busy Season At Hand

The advertisement, on another page, of the C. P. Goerz American Optical Company, reminds us that the busy season of the outdoor photographer is fast approaching, even on the bleak Atlantic Coast. While the Eastern amateur bestirs himself to perfect his outfit for the short summer season, we of the Pacific States may well emulate his example. The slight extra expense necessary to secure the best in the camera and lens market is here doubly warranted by the attractions of climate and scenery. In addition to the celebrated Goerz lenses, the Goerz Company manufactures a line of hand cameras of unusual compactness, durability and range of usefulness. They have just announced important additions to their camera list, including 4x5 and 5x7 models of the Manufoc Tenax and a new pocket camera, the Coat Pocket Tenax, for pictures $2\frac{1}{2} \times 3\frac{1}{2}$ inches, which is constructed along the same lines as their unique Vest Pocket Tenax. The Company offers to send full particulars as to these cameras to all inquirers. Address C. P. Goerz American Optical Company, 317 East Thirty-Fourth Street, New York.

"Snap Shots and Education"

Elbert Hubbard, the "Sage of East Aurora," has written a preachment with the above title, and the Roycrofters have printed it in their inimitable style, making a booklet that everyone should have as an exposition of the multiple advantages of early acquisition of the "camera habit." The preachment starts with a survey of Aristotle

and his method of teaching, beginning when that gentleman made his memorable start, on foot, for Athens, some three hundred and fifty years before Christ. From that rather early start the reader is brought down to the photographing of the colt, Fra Asbestos, at the Roycroft Farm, with an Ansco camera. Drop a request to the Ansco Company, Binghamton, New York, and get a copy. And do it before the supply is exhausted.

Color Photography On Paper

We wish to inform the readers of CAMERA CRAFT that we have secured the sole agency for Utocolor, which is color photography on paper, J. H. Smith's process. Utocolor is a printing-out paper for the manifold reproduction of Autochrome and other color-screen plates, as well as of transparent colored objects of every kind, such as window transparencies, glacier prints, glass paintings, colored lantern slides, etc. We expect to receive the first consignment of Utocolor shortly. Further announcement will be given in CAMERA CRAFT. Booklets, now in the hands of the printer, will be sent upon request.

Very respectfully yours,

J. L. LEWIS,

522 Sixth Avenue, New York, N. Y.

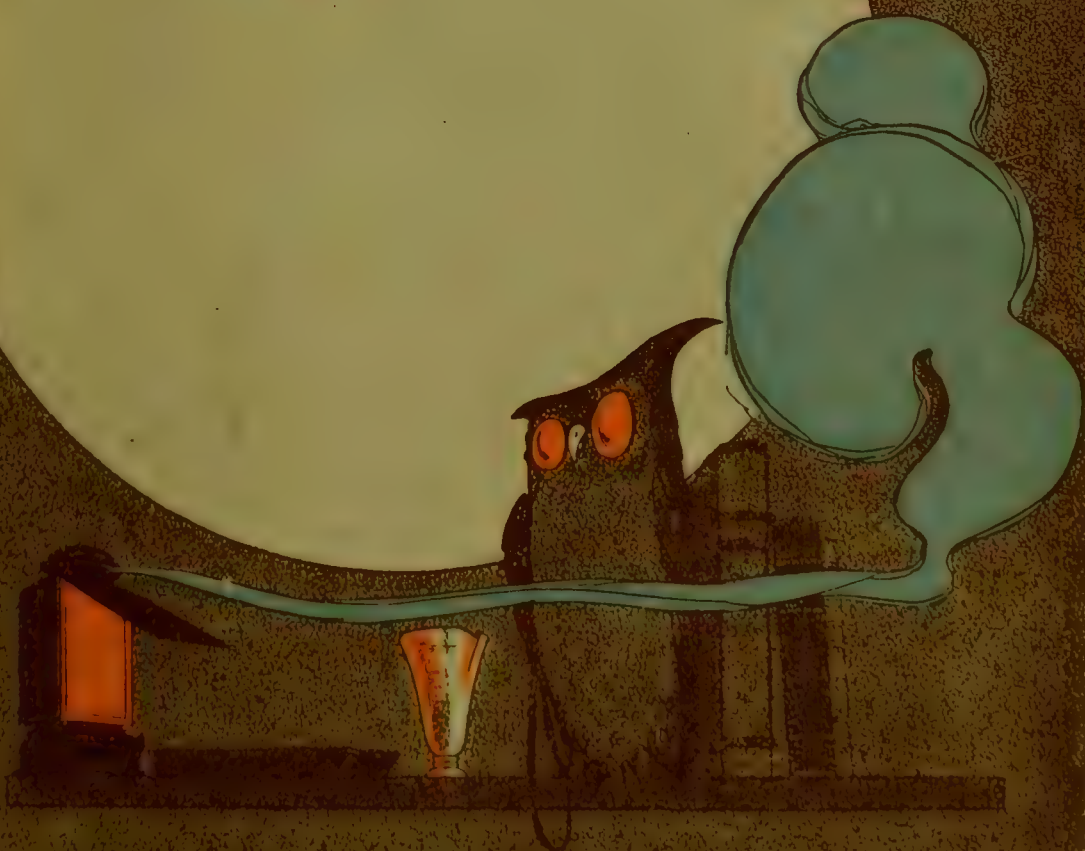
Send In Your Name and Address

Another "Darkroom Surprise" will soon be mailed photographers by the "Agfa" folks. It is the best way for the photographer to keep posted with the latest doings. Better send along your name and address to the Berlin Aniline Works, 213 Water Street, New York City, so as to be sure to be on the mailing list.

"Photography Indoors"

The above is the title of a book just published by Bausch & Lomb Optical Company, one that will appeal to the amateur photographer. It is a very attractive book, done on India tinted dull finished paper, with warm brown duotone ink. The illustrations are interesting and the general effect of the book artistic. Diagrams accompany each illustration, showing exactly the conditions under which the originals were made. Much useful information is contained in the book. It may be obtained from the Bausch & Lomb Optical Company on receipt of inquiry mentioning this journal. Do not fail to write at once for your copy.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

Advantages of Habit

(According to Cykology)

1. Reduction of time.
2. Increases accuracy.
3. Relieves attention.
4. Reduces exhaustion.

If you are in the habit of putting on your coat by inserting your right arm first, it is almost impossible to use the left. To form the habit of producing good work by using the best plates, paper and chemicals is to gain the ability of doing the best work in less time, with less waste and effort than it takes someone else to turn out poor work. To use

C.y k o Paper

is to become a good craftsman. The use of an inferior paper because it's cheap degrades the photographer and his work. It unfits him for higher things.

AnSCO Company
Binghamton, N. Y.





"WHEN THE FROST IS IN THE PUMPKINS
AND THE CORN IS IN THE SHOCKS"
By W. F. ZIERATH

CAMERA

CRAFT



A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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Making Flashlight Pictures

By H. L. Maloney



With Illustrations by the Author



AN INTERESTING TOY

VERY owner of a camera should familiarize himself with flashlight photography. The work presents no difficulty, it is interesting and easy, and, for ordinary work, there is required no outlay for special equipment, further than the purchase of some flashlight powder or cartridges. These last come with fuses attached that require only to be lit with a match, preferably one held in a slit in the end of a stick if the cartridge be placed fairly high. They come, these cartridges, in various sizes suitable for home portraiture, ordinary interiors and the like. If one so desires, they can be reloaded from a package of powder, and fuses can be purchased separately. Small capsules can be purchased from one's druggist,

CAMERA CRAFT

filled with powder and fitted with an ordinary firecracker fuse before putting on the lid, make excellent cartridges. They are, however, only strong enough for bust portraits made with a rapid lens. Larger cartridges can be made by tying up the required amount of the powder in a bit of paper, using a piece of thread to hold it together, after first inserting the end of the fuse. Ordinary wooden mustard spoons are the best for measuring the powder. There are three sizes on the market, one holding five grains, one ten, and a large size holding about fifteen grains. Get one, and, if you have no scales, ask your druggist to weigh the powder that it will hold so that you may know how much you are using when measuring out powder with it. A teaspoon, level full, contains about thirty grains.

The flash powder can be fired by simply placing the required amount in the center of a piece of paper and applying a lighted match to the edge. The paper will burn slowly up to the powder and then ignite it, but be careful that there is no scattered powder around the edge or it may set off the flash too soon, resulting in a burn. Rightly used, this method allows one time to get back in front of the camera and be included in a group. One end of the strip of waste film can be inserted in the little mound of powder and used as a fuse. The flash should not be placed too near the camera, as the explosion is liable to vibrate the camera during the exposure, spoiling the result through blur. The flash, if so near the camera, is also inclined to give flat negatives, owing to too much front light.

The flash should be placed from four to eight feet to one side of the camera, depending upon the amount of shadow one desires to get in the portrait or view. Portraits of children can be made with the light more in front than when making portraits of adults or elderly people. The flash should be about the same distance from the sitter as the camera; if it be placed nearer the light may strike the front of the lens and cause a blurred negative. This does not always happen, particularly when the lens is well stopped down, but the lens should be well shaded from the flash at all times. The focusing cloth or a green window shade held to one side of the lens and between it and the flash will often save disappointment and allow the flash to be used much nearer the sitter. The nearer to the sitter the powder is fired the less is required, and, of course, the less smoke and noise result. Perhaps the best plan is to get a tinner to make a cone or funnel to slip over the front of the lens and extend out several inches in front, painting it a dead black inside. Or, with a little patience and skill, one can make a cone-shaped lens shade out of some cardboard, much as one would build up a large cardboard funnel, the small end just fitting over the front of the lens.

The amount of powder to use depends upon several conditions. The least amount is required in a small room with light colored walls; slightly darker walls requiring twice as much; while dark red walls will require three times the amount of powder. Light walls reflect most of the light, so that one is getting the benefit of the direct light of the flash and also the reflected light from the walls. The dark red walls absorb practically all the light that reaches them, giving the subject only the direct light from the flash. Using plates or

MAKING FLASHLIGHT PICTURES



THEIR CHRISTMAS TREE



A FAMILY GATHERING

CAMERA CRAFT

films of medium speed and a lens working at f-8, one will need about twenty grains of powder with the flash about eight feet to the side and well above the sitter, working in a fairly small room with white or light walls. Double the amount of powder for each size smaller stop and double or treble for darker walls, as advised above. A slightly larger room will require a little more powder; while a large room, one large enough so that there is no wall directly behind the flash to reflect the light, will require half as much again. If one can place the flash within five feet of the sitter it will be necessary to use only one-third the powder, the intensity of the light increasing as the square of the distance. At four feet, only one-quarter of the powder will be required that is needed at a distance of eight feet.

Portraits of children require less light, and besides, one will use more front light and no reflectors are needed. With elderly sitters, particularly if two or more are made together, the light will have to be more from the side and a reflector used to lighten up the greater amount of shadow on the faces. One should not use too much side light for a group, and a reflector is of little assistance where so many are being photographed. With a group containing children, burning a piece of paper on a tin pan placed about where one wants the group to look, will assist in holding their attention in the right direction.

Good firelight effects can be made by using the lens stopped down to f-16 and burning about fifteen grains of powder in the fireplace, which must, of course, be innocent of a fire at the time. A few lumps of coal or sticks of wood will, perhaps, show in the picture and add to the effect, looking more natural than an empty space. The powder is best placed well back in the fireplace in the corner hidden from the lens. Have the sitter or sitters in such a position that the faces will be well illuminated and not too far away from the light.

In making flashlight pictures one will often experience difficulty in securing a sharp focus, owing to the lack of illumination in the room. There are several ways of overcoming this trouble. One way is to have an assistant hold a lighted match or candle in different parts of the view or close to the sitter's face and secure a focus upon the flame. An electric bulb on an extension cord is better, and a pocket electric flash lamp will answer. A small bit of magnesium ribbon, held by a pair of pliers and burned where wanted, can be also employed, as it will burn fairly slow. After the focus is secured, make the exposure with a cap instead of the shutter, as the former makes no noise to attract attention. Cap the lens, put in the plate holder, withdraw the slide, remove the cap and then light the fuse of the flash cartridge. After the flash, replace the cap and then return the slide to the holder. Never darken the room previous to the flash, as peoples' eyes dilate in the dark, and, photographed in that way, they appear staring and unnatural. Have plenty of light in the room, as the lens may remain open with the slide withdrawn for two or three minutes without affecting it if the lights are where they will not shine into the lens.

By using a studio shutter on the front of my view lens, so arranged that the shutter opened and the flash is made simultaneously, I have been able to photograph a cluster of electric light bulbs without halation. This requires a flash lamp that operates with a bulb and tube, and the shutter must be one of

MAKING FLASHLIGHT PICTURES



A FIRELIGHT EFFECT

A HOME-LIKE PICTURE

the same kind, a "Silent" or a Low Studio shutter, these last going on the front of the lens and not interfering with the regular lens shutter. In this way I make my pictures of children holding an electric light globe, an example of



KEEPING THEM INTERESTED

CAMERA CRAFT

which is shown herewith. The same method is used for making Christmas trees with the candles burning.

Fine effects may be secured in the same way by having a subject stand by an open window, making the picture during daylight. One must use practically as much powder as if the picture was taken at night; but, being taken in the day time, one will not only get all detail in the figure and in the room, but in the landscape outdoors as well, and the two combined without any danger of halation. The tubing to the shutter should be shorter than one to the lamp, so that the shutter will open a trifle in advance of the flash. The shutter works at about one-fifth second and the lens should be stopped down to f-16 for this effect. The same applies to the pictures including electric light bulbs.

A flash lamp is much to be desired for portrait work, as it can be fired at any desired instant, thus making it possible to secure good expressions, particularly in the case of children. There are many kinds on the market at prices ranging from fifty cents upward. One should get as good a lamp as he can afford. Some of the best are provided with bags to confine the smoke, and the cloth of which these last are made serves as a diffusing screen, the flash being fired inside. A piece of lawn or muslin held or supported in front of a flash will diffuse the light and give more evenly lighted negatives, but one will have to use about one-third more powder to make up for the light cut off by the cloth screen. Some flash lamps are operated by an electric current and some are set off by a bulb and tube. Some of these last use alcohol burners, while others employ a paper cap or friction match. A good form of lamp for burning small amounts of powder is fired by means of a toothed wheel rotating against a piece of sparking metal. Pure magnesium powder is used by blowing the powder through a flame, generally an alcohol one. These magnesium lamps should never be used for flashlight powder or serious accidents will result. The magnesium lamps are not capable of instantaneous flashes, but they are operated without any noise and with less smoke than regular flashlight lamps.

Some studios make all their exposures by flashlight, employing a very convenient form of cabinet for the purpose. The cabinet or chamber in which the flash is burned is provided with a thin muslin front that softens the light, while a pipe is provided to carry off the smoke. With one of these cabinets one can obtain the best of results, the texture in white and black clothing being rendered with the most perfect detail. Many articles I have read on flashlight work advise that the flash should be fired from such a height that the light strikes the sitter at an angle of forty-five degrees. While this is desirable, it is not at all necessary, and it is often impossible in home portraiture. And besides, if one fires the flash too high, he will often under-expose the lower part of the subject, particularly if the dress and floor be dark.

Most flash powders are made in three speeds, the fastest making the most noise and smoke. In saying that a certain grade is fast, the maker does not mean that it is equal to using a faster lens or a larger stop in the lens. What is meant is that the time consumed in burning is shorter, that the explosion of the powder takes place in less time. Some powders burn in one-tenth of a second, while the fast kinds require only about one-fortieth of a second. Using

MAKING FLASHLIGHT PICTURES



THE DOLLS' PARTY

the fastest powder, one can do almost any kind of ordinary work without being troubled by movement. If rapidly moving objects are to be taken by flashlight, it is necessary to use a fast shutter; and, in giving an exposure of one five-hundredth of a second, one must remember that he is using only a part of the light, the shutter working twelve and one-half times faster than the powder:



THE DOLLS AT TEA

CAMERA CRAFT

burns. Consequently it will be necessary to use twelve and one-half times the amount of powder.

In developing flashlight exposures, the regular view developer should be diluted with an equal amount of water; and, if the walls of the room in which the exposure was made were dark or red, still further dilution will improve the results, developing for a longer period, of course. It is an easy matter to make a flashlight negative too contrasty by using a developer that is too strong.

When making interiors of rooms where there are no people present, it is better to make two flashes so as to divide up the illumination and soften the shadows, and less powder will be required. If the room requires fifty grains in one flash, thirty grains can be fired from one side to give the principal light and then from the other side a flash of about ten grains will soften up the shadows and give a more uniform lighting with better detail in these shadows. One should cap the lens after the first flash and wait for the smoke to leave the room before making the second. If the walls of the room are quite light, one flash may perhaps be best, the white walls serving as reflectors to illuminate the shadows. One can make these interiors during daylight by pulling down the shades, and the view through the window can be secured by making a second short daylight exposure with the shades up. Experimenting along this line will be found very interesting.

A handy, home-made flash pan is easily made by taking a large piece of tin, bending the lower edge to form a trough. Punch a hole in the top to allow it to be suspended from the picture moulding, and punch a small hole in the bottom of the trough near the center, to carry the fuse. The tin back acts as a reflector and also causes the flash to spread out in the shape of a fan, giving a large amount of illumination. Such a pan can be suspended from almost any kind of wall by using one of the suction hangers or a pin called a pushless hanger.

To produce beautiful works, the sole condition necessary is that which the great Goethe indicated: "Fill your mind and heart, however large, with the ideas and sentiments of your age, and the work will follow."—H. TAINE.



MAKING PORTRAIT LIGHTING
156

MAKING REMBRANDT THREE-QUARTER VIEW
(Illustrating Article on Next Page)

An Article On Lighting

By Felix Raymer



With Illustrations by the Author

In accordance with my promise, and to gratify a pleasure of my own, I herewith send this illustrated article to CAMERA CRAFT with the hope that it may give its readers as much pleasure in the reading as it has me in the writing and illustrating, and that it may also be of benefit to some operator who may not have been so situated that he could avail himself of the many good demonstrations to be seen and heard at the several conventions held in the different States of the Union.

There is an old saying, "I am from Missouri, show me," and that last is what I hope to do in this article. I will show the portrait in each of the lightings and have also tried to get a fairly good wide-angle view of the room so as to show just how each lighting and pose was made, as well as all of the accessories that were used in the composition. It was a very difficult matter, however, to get all of the wide-angle views clear of fog, owing to the fact that I had to have the camera, at times, facing directly towards the light; and, of course, the light being such a large one, it made it all but impossible to avoid halation. It was my aim to show the skylight as well as all other conditions of the making of the portrait and I hope charity will be shown in the judgment of one or two of these illustrations, for the reasons mentioned.

I want to, in a brief way, explain just what I look for in each effect of lighting I make, and I would here add that the five different views and effects of light here shown cover the ground thoroughly for the operator, as I have never seen the man who could add the sixth. If he attempts it, we find the result is no more than a modification of one or the other of the effects shown in this article. Where I differ from most operators lies in my classifying of the lightings so that I can produce them at will. Many operators say that they cannot make the same thing twice, or get the same effect over and over. The reason is that they are not working on certainties, but are, rather, wandering around in a circle, trusting to luck. If they would classify their lightings and give each one a name so as to know it every time they saw it, they would in a short time be able to produce any one of them at will. I will take up the work in the order in which I would give a demonstration to an audience, and will proceed to a definite end if possible. First comes:

THE SKYLIGHT.

I do not care what sort of a light is used, whether it be a large double slant, a small house window, or flashlight, the work is to be done just the same. It is not a question of what source of light is used, but the principles of lighting

CAMERA CRAFT

and how to apply them. Therefore I say, whatever the light, the subject should be placed so as to have a direct relation to its size. If the light is a large one, the subject must be placed farther from it than would be the case for a small light. My rule is to have the subject the same distance from the light as the width and length of the light. I try to have the source of light as nearly square as possible, or at least only one opening for the light to come through. The reason for this is, if we have two openings there will be two sets of cast shadows on the face; and, if such is the case, it gives the retoucher extra work taking out one set. If there are two sets of shadows, there is an indefiniteness, a lack of strength and concentration. The square opening is better for the reason that the light falls from all parts of the skylight with the same strength and there is less difficulty in seeing the direction the light takes in passing over the face. It does not matter about curtains if the subject is placed the same distance from the light that the opening measures, the principles are the same at all times. This must be remembered if soft, delicate work is wanted; the light should be used full open, no curtains. If concentrated effects are wanted, those with strong, snappy highlights and deep shadows, the light must be small so as to get the concentration necessary. Do not forget to move the subject nearer the light as its opening is reduced for the concentrated effects.

PORTRAIT LIGHTING.

My first illustration shows the portrait effect of lighting, used almost exclusively in studios. To make it, the subject should be placed as described above, and then the face turned to the light until the shadow from the nose and the shadow from the shadow cheek divide. When this is accomplished, if the light is falling right, in other words, if the subject has been properly placed for the size of the light, it will be seen that there are small darts of light in the eyes, called catch lights. The highlights on the face fall first and strongest on the forehead, just above the light eye, and next on the nose; next on the upper lip; next on the chin; and last, a soft, delicate light on the shadow cheek. This brings all of the highlights more to the center of the face so that the outline back on the ear and hair is a little lower in key, thus concentrating the attention more to the center of the face, as it should be. If we look at another, we look him in the eyes, and so should we make our pictures; and, to concentrate this attention to the face, we must concentrate the light at that part of the face, light being a better "puller" than shadow. To determine whether the light is too strong or not; after the shadows from the nose and shadow cheek are separated, look into the highest light on the face, the one on the forehead over the light eye, and see if the color of the flesh can be distinguished. If it cannot, it will certainly not show in the negative; and if it does not show in the negative, the picture will not be of flesh and blood, will not be true to nature. Our subjects are flesh and blood; and, while we may not show the natural colors of the flesh, we can show the value of the color, and by so doing secure the roundness necessary to the portrayal of correct perspective. If the color of the flesh does not appear, place a white head screen over the head and thus soften the light so that the flesh will show. If one thickness of cloth on the head screen

AN ARTICLE ON LIGHTING



EXAMPLE OF PORTRAIT LIGHTING



REMBRANDT THREE-QUARTER VIEW

does not answer the purpose, add another thickness, and still another if necessary. Some lights require more softening than others, but this rule applies under all of them. Next, see if the color of the flesh can be seen in the deepest shadows, which will be just under the ear on the shadow side of the face. If it does not, a reflector is needed. Now here is the bugbear of many good operators, men who say that a reflector should never be used, as it destroys modeling, and so on. This may be true in the hands of a poor workman, but if intelligently used the reflector is at times a great help. The flesh color must show in the shadows, just as it must show in the highlights; and if it takes a reflector to show it, we must use the reflector, and it should be done in such a way that the light from the reflector joins with that of the skylight, on the shadow side of the face, continuing around under the ear, in a lessening degree, as it passes around that side of the face. To do this, the reflector must be placed well up to the front of the subject, so that the light is thrown on the shadow side from the front. We now have flesh values in all parts of the lighting; and, if the proper exposure is given and the right development given for the exposure made, we will show the flesh values in our negative. But exposure and development are another story which I may take up at some other time.

If the subject is clothed in white draperies or draperies that affect the plate as white, they must be screened down, forced to take their proper weight; which means that they, not being of as much importance as the face, must be held down so that they will not take the attention therefrom. The wide-angle view of the room will show the whole plan. The next lighting shown in what is called the three-quarter Rembrandt effect and is popular, among operators, for

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blond subjects, as it adds strength to the face and is fine for white draperies and the shadowy parts of the hair.

REMBRANDT THREE-QUARTER VIEW.

This lighting is not greatly different from the portrait effect, there being no change made in the lighting. But the camera is moved around on the shadow side of the face until the ear on the light side is hidden, and, of course, the background changed to suit. The highest light in this view of the face is, by reason of our different point of view, moved over more towards the center of the face, and more of the shadow side of the face is seen, seen farther back towards the shadows of the hair. The second highlight comes directly on top of the nose, and then the upper lip and the shadow cheek, as in the portrait effect. Owing to the fact that more shadow is seen, we must give longer exposure, bearing in mind that the shadows must have time enough to secure detail in them. This effect of lighting and this view of the face will require twice the exposure of the portrait lighting, if no other change is made than the moving of the camera and the background. The drapery is to be screen the same as for the first effect. I would explain that I made a little different position, simply to avoid monotony, but it can be seen that the lighting is the same.

REMBRANDT PROFILE.

This, again, is the same lighting, except that the camera is moved farther around on the shadow side of the face, or until the eye on the light side is out of sight from the lens, when a full profile will be the result. Here the highest light is in the center of the face, running downward over the nose, and with a soft light on the shadow side of the face as for the other lightings. This time the deepest shadow is below the ear on the side next the camera, and the exposure will have to be prolonged to three times that of the portrait lighting, if no other change



EXAMPLE OF REMBRANDT PROFILE

be made than the moving of the camera and the ground. Remember to consult the wide-angle views of the room when in doubt, and everything can be understood.

AN ARTICLE ON LIGHTING

THE SHADOW EFFECT

Here is where we get a change in the lighting. After the portrait lighting has been made, if the operator decides to make one of these shadow effects, he can easily do so by simply having the subject turn from the light until all of it leaves her face, thus securing the highest light on the back of her head, or the back of her hat, as is the case in my illustration. When the light has left the face, it may be necessary to move the re-



MAKING REMBRANDT PROFILE

flector so as to obtain more light from it, as this lighting is very low in the shadows. But in all cases remember that what is wanted in any effect of light is the value of the flesh in the highest lights and the deepest shadows. And if this is secured, it must be done by seeing the color of the flesh before the exposure is made. In this lighting the face should be in a low, soft key of light. Some object to it on the grounds that it looks flat. Possibly so, but for certain subjects it makes a very pleasing effect. The exposure here is four times that of the portrait effect if the only change made be to turn subject from the light and to move the camera until a profile is secured.



EXAMPLE OF SHADOW EFFECT



EXAMPLE OF LINE EFFECT

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MAKING SHADOW EFFECT



MAKING LINE EFFECT

LINE EFFECT.

This looks like a much more difficult lighting than it actually is. To secure it, after the portrait effect has been made as directed, have the subject turn from the light until all of the light leaves the shadow side of the face, and then move the camera around on the shadow side until a profile is secured. This will face the camera right into the skylight, and, of course, the ground must be moved accordingly. From this view and with this effect of light, the light runs all around the subject, making a line about the entire figure. The highest light on the face is on the forehead, unless shaded by a hat, as in my subject's case, and then downward over the nose, lip, and chin. This with no light on the shadow side, except what is secured by the use of a reflector, giving a very soft, delicate effect to that side of the face. The exposure here is seven times that of the portrait effect, if no other changes have been made.

IT'S EASY.

Yes, it's easy if you follow directions, and these directions are certain of results; but, I want to say to my friends who have not the patience to follow directions, that it is the hardest job you will have. I know, for it is my business to give directions, and it is my experience that when one says he has followed directions, he has, nearly always, forgotten something, something that prevents success.

As I said before, I have changed the positions somewhat, to avoid monotony; but I would suggest that, should one wish to give this a "try out," he make the sittings as I have outlined and not try to change the positions until after he has mastered the lightings. I would further add, if you, as readers of CAMERA CRAFT, care to write to me, and I can answer any question for you, it will be cheerfully done, *gratis*.

We are not sent into this world to do anything into which we cannot put our hearts. We have certain work to do for our bread, and that is to be done strenuously; other work to do for our delight, and that is to be done heartily; neither is to be done by halves or shifts, but with a will; and what is not worth this effort is not to be done at all.—JOHN RUSKIN.

An Amateur At A Fire

By M. Campbell, Jr.



Illustrated by the Author

It has been my ambition for some time to some day secure pictures of a fire, ones with the firemen in action; but, as I am one of those unfortunate individuals who have to work long hours, from 8 a. m. to 6 p. m., with forty-five minutes for lunch, one can readily see that my chances for getting such pictures were very slim. One might almost say that it would be necessary to have a fire made to order, so that I might get the views which I wanted, because, in the first place, it would have to be near the office, down town, in order that I might get there quickly; it would have to be during the noon hour, my lunch time, and last but not least, I must have my camera in the office, loaded and ready for work.

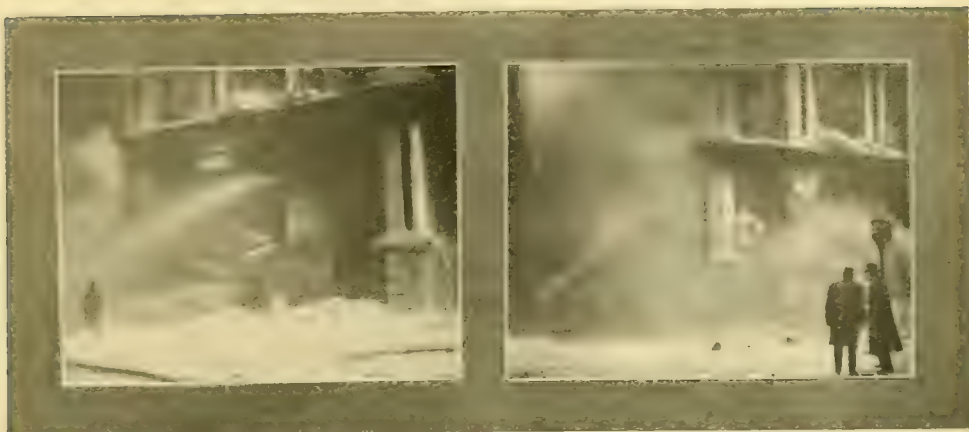
Taking into consideration these almost prohibitive conditions, one can appreciate my feelings when, on my way to business a few mornings ago, I saw



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fire engine after fire engine crossing the Brooklyn Bridge on the way to New York. This told me that there must be some big fire over there, as it had been many a year since the New York Fire Department had to call on Brooklyn for help. There I sat in the bridge car, alternately watching this procession and a distant mass of smoke pouring from the financial district, with my camera at home. Luckily, I remembered, there were ten unused plates in the magazine. Would I turn back home and get my camera, a matter of an hour and a half, or should I go on to the office and lose this chance of getting a fire picture? I was nonplussed; and, while I did this thinking, the car had reached New York, so I determined I would see where the fire was before going to work. I ran across City Hall Park and down Broadway, with the Brooklyn fire engines behind me; and, when I reached the scene, I was surprised to see the Equitable Building all aflame. I turned round, and on my way to the office decided to send one of the boys after the camera, as I myself could not spare the time to get it. Then another problem confronted me: Could I trust that boy to bring my camera safely without falling on the icy sidewalk with it, or turning some of the levers out of pure inquisitiveness? After cautioning him to be careful, and telling him what the camera was worth to me, I took the chance. While he was gone, I imagined everything happening to my camera, which, by the way, is a 4x5 Auto Graflex fitted with a IC. Tessor lens. However, the boy and camera arrived safely at the office, and I reached the fire, which by this





time was burning furiously, at 12:45. As I had never before taken any pictures of a fire, I did not know what time to give, but decided to make the exposure as slow as possible to stop motion, using the lens wide open, at f-4.5, for the conditions were very poor. The buildings were high and the streets narrow, which made the light, especially at this time of the year, quite poor, with the working quarters very cramped. I used tension four, and a curtain aperture of three-fourths inch, which gave me one one hundred and fifth second. There I stood, with the hood of my camera up, trying to get something in focus, and about every time I was ready to snap a picture, the spray from several lines of hose would blow across my lens, either steaming or fuelizing it, so that I could see nothing. Being new at this work, I was timid, as I pictured one of those high-pressure hoses bursting and hitting me, or one of the firemen unintentionally turning a stream on me. Then, again, I heard the walls were liable to topple any moment. It was zero weather, and the wind blew a gale, but in the face of all these difficulties I managed to snap ten pictures, from different angles, all on the same exposure time. Seven of these turned out very good. This, I feel, was a good percentage, considering the conditions under which I had to work. There was a coating of ice, which must have been one-eighth of an inch thick, on my camera, while I was coated with ice from head to foot, and I never felt so cold in all my life. These pictures, together with a few of the ice-coated building, which I took a few days later, I prize more than any others in my collection, realizing the difficulties under which I worked to get them. And I am none the worse for my experience, except for a slight cold.

Kinemacolor Motion Pictures

By Walter Brandon

There was, early this month, a most interesting lecture delivered in the ball room of the St. Francis Hotel, on Kinemacolor motion pictures, colored moving pictures produced by a special process patented by Messrs. Urban & Smith

CAMERA · CRAFT

The lecture was under the auspices of the local Advertising Association and delivered through the courtesy of the National Cash Register Company.

The process is based on the same principle as color photography by means of three color screens, the difference being that only two screens are used. It is, of course, impossible to secure as exact reproduction of natural colors by the use of two screens as is possible by the use of three, but the results are, nevertheless, most realistic and satisfactory. A pure blue, either alone or as a part of another color, is not ordinarily rendered by the process. However, in scenes where blues predominate, a slight change in the two screens used permits the blues to be rendered faithfully, but the greens, if any, will suffer by being rendered somewhat bronze blue as to color.

Briefly, to describe the process, the number of exposures per second is doubled in making the original negative, to permit of each alternate exposure being made through red and green filters that come before the lens alternately. The films are, of course, specially made, panchromatic or sensitive to all colors, in order that the exposures through these screens can be made as rapidly as required. From this negative film the positive film is made; and, in projecting it upon the screen, it only becomes necessary to interpose, again alternately, in the path of the rays from the lantern, red and green screens. This is done by means of a circular rotating screen carrying red and green sectors, and revolving in front of the film as it is itself brought before the illuminating beam of light that carries the image to the screen.

To return, an exposure of one of these small pictures is made through a red screen, the individual exposure being made at the rate of thirty-two per second, twice the ordinary speed. This screen transmits chiefly red light, consequently, a positive made from the negative so produced will be transparent at points corresponding to the red portions of the original scene, being more or less darkened in other parts. Therefore, if this positive be viewed through a red screen, it will show highlights of bright red where the original object was red, with the red light more or less cut off at all other points. The same thing happens with the next small picture which is exposed through the green screen, except that its corresponding pos is to be viewed through a green screen producing portions of the picture. In projecting the pictures, these two screens, the red and the green, are interposed in rapid alternation, keeping strict pace with the alternation of the images on the film, so that every time an image secured by means of the red screen is in position in the path of the light a red screen is also in position, and similarly for the green.

We are glad to be able to set forth the method of production of these wonderfully realistic motion pictures in colors for the benefit of the readers of this magazine. Numerous letters have reached the editor asking for information, sometimes for the purpose of settling a dispute. There are, of course, crudely colored examples of hand-colored moving-picture films, but the small size of the positives and the vast number that require coloring in order to produce a picture of any duration, make hand coloring practically out of the question. The beauty of the Kinemacolor productions needs to be seen to be appreciated, and every one who can have access to one of these exhibitions should avail himself of the first opportunity.

Making Money With A 2A Brownie

By Alfred H. South, I. P. A. 2336

With Illustrations by the Author

A few years ago I was the recipient of a 2A Brownie camera as a birthday present, a gift that has since been a constant source of pleasure and, lately, a source of profit. At first I made the usual beginner's mistakes, but after a while I got so I could take a fairly good picture and do it quite regularly. Naturally, I took a good many pictures that appealed to my friends, and they wanted copies of them. For these I charged just the cost of the prints. One day a gentleman asked me if I would take a picture of his house for him, and I did so. He ordered a dozen and a half post cards and was so pleased with the work that he told all his friends. Soon I was taking all kinds of pictures, and doing it with very few failures. I found that the right way to gain a reputation was never to submit poor work. If the pictures did not suit me, I made them over, showing only such work as was satisfactory. By doing this and always showing a disposition to please the customer, if possible, one soon gets a reputation for being a careful and skillful photographer.

By last summer I had worked up quite a little business, doing more work than I had expected could be secured in my neighborhood. I was kept pretty busy nearly all the fall and well into the winter. And now, at this writing, snow scenes are the thing. One has only to make up a few in post-card form to see how easily they sell, particularly if they be good views of localities that one's customers can recognize.



MOONLIGHT

SPRINKLING

THE FLYER

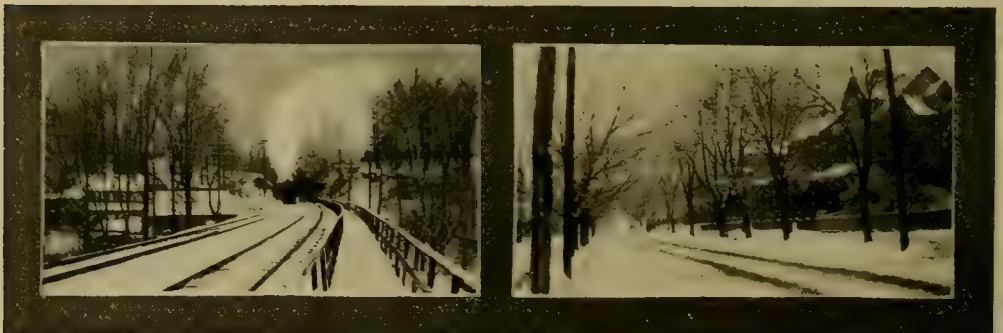
CAMERA CRAFT

When I take pictures to order, I charge fifty cents for six, post-card form, and ten cents extra for regular prints mounted. The mount used costs a little more than the difference between the paper and the post cards. The views I take for my own pleasure, yet sell as post cards, I sell a little cheaper. I do not make so much on them, but they bring me in many orders. Often people will ask me how much I will charge to make them a picture of their house or street, with snow on the ground, like such and such a picture which I have made of another house or street, and which has taken their fancy. In addition, I have secured quite a nice little line of business in developing and printing for others. I charge fifteen cents for a six-exposure roll, 2A Brownie size, and four cents each for prints from them. I do not always develop them myself, but the price leaves me a five-cent profit on each roll. Enlargements I do not bother with, sending them away to be done. There are a number of houses that do good work at moderate prices, and I find it cheaper to get the work done than to do it myself with the attending waste of an occasional print. To the price paid I add a small per cent. for profit, so that that class of work also pays me for handling.

The proper way, I have found, is to have but one price and stick to it, cutting the price under no consideration. I always carry a dozen or more good prints in my wallet to show to any one interested, and also have a bunch of business cards to hand out when so doing seems advisable. I find these latter help by making it easy for people to send others to me for pictures. I keep all my negatives in albums, negative albums, each pocket numbered to correspond to the number of the negative, and each showing just how many seconds exposure is required to make a good print. "V. V.—15" means Velvet Velox, fifteen seconds; "C. 6—10" means Cyko No. 6, ten seconds, and so on. This saves much time and paper that would otherwise be wasted in guessing at the exposure each time a print is wanted.

I use Eastman film, Velox and Cyko paper, and M-Q tubes. With these, a thirty-two-candlepower lamp for printing, and plenty of fresh water, one can always make good prints.

The pictures herewith are just ordinary work with my 2A Brownie. The trains were taken but a short distance from the station and were not moving very fast. I did try, just once, to get a side view of a train in motion, but the result looked like a big smear. Taken as shown in these two examples, it is



I. W. TABER AT REST



A MODERN HOME

THE OLD FARM HOUSE

not hard to get them fairly sharp, and they are more pleasing views than ones taken directly from the side. The only thing that bothers me now is the small size of my camera. In the spring I expect to get a 3A Kodak, which will give me pictures post-card size.

I. W. Taber At Rest

Born of sturdy New England stock, more than eighty-two years ago, the late Isaaiah West Taber has made his name a household word in thousands of homes throughout the country. Today there are hundreds of thousands of photographic portraits, bearing the "Taber" imprint, treasured by their owners, and each of a quality making them veritable studies in black and white.

The smoke from the chimneys of his boyhood home on the banks of the Acushnet River, in Bristol County, Massachusetts, mingled with that from the home of the writer. His early days were given to voyaging, whaling; thus fulfilling a rule that held for many years, namely, that the most famous and successful photographers the world over, were originally seafaring men. Taber was in San Francisco in the early fifties, but in response to a telegram from Bradley and Rulofsen, the oldest and leading firm of photographers at that time in San Francisco, he came out from Syracuse, New York, to remain permanently, in September, 1864.

Quiet and retiring in manner, slow of speech but quick to act, he had the good fortune to be endowed with keen inventive faculty and a power of seeing the adaptability and merit of new ideas in his chosen field. The "Panel," the "Boudoir," and the "Paris Panel," bear testimony to his good judgment. The "Bas Relief," the "Enamel Photo," and many other inventions and productions are to his credit.

His trip to England and his success with royalty confirmed his high standing here. In 1897, he photographed the diamond jubilee celebration in London and was later called to Marlborough House to photograph the late King Edward VIII. His many thousands of negatives of the world's famous men and women were lost in the fire of 1906, the fire coming just as Mr. Taber was about to move to a grand new studio. The loss was an irreparable one, not only to him but to the world. His years of business success assured him any

assistance required in making a new start; but, as he said to the writer at that time: "I somehow feel too weighted down with years to undertake it. Were I ten years younger, I'd start anew on a still grander scale."

Mr. Taber passed away at his home in San Francisco, Thursday, February twenty-second. His devoted wife and daughter have the heart-felt sympathy of a host of friends, and particularly of the entire photographic profession, including,—“OLD FORTY.”

Photography By Tungsten Lamp

By F. L. Peterson



With an Illustration by the Author

I am accompanying herewith a print showing a gathering such as is usually photographed by means of the flash. I am not in the possession of a flash bag, and the situation was such that an open flash could not be used. Having, during the past summer, experimented somewhat with the actinicy of a tungsten lamp, I decided, as a possible means of overcoming the difficulty in this case, to give it a trial. I borrowed a five hundred watt tungsten lamp from an electrical concern in town, and suspended it, properly wired, by a pole so that the rays would strike the first subjects very obliquely, and high enough so that shadows would not be cast from one person to the next. A small portion of this pole shows in the upper right-hand corner of the picture reproduced herewith. As I did not want to interfere with the ordinary lighting in the room, I ran a rather long extension to a socket on which is operated an electric iron, it having previously been ascertained that the current consumption of the five hundred watt tungsten was nearly the same as that used by an ordinary iron; this avoided the danger of overloading the other house circuits. The light being supported from the end of the pole, it was very easy to change the angle of illumination.

The lens used was a Voigtlander Collinear stopped down to f-22. The plate was a 5x7 Seed's Ortho Non-Halation; the exposure, ten seconds. As I desired to be included in the picture, I had another party make the actual exposure. I am standing at the extreme end of the table, and, due to the fact that standing perfectly motionless is somewhat different from sitting still the same length of time, have the pleasure of being "fuzzed."

Instructions to the subjects were to the effect that they could wink all they pleased (and they all say they did), and that the breathing could be as free as they chose, providing that all respiratory movement be abdominal. The mandate was also issued (who says they have ever heard it before) for every one to look directly into the lens. Everything ready, the exposure of ten seconds was made without the least discomfort to any one. From my position, after

PHOTOGRAPHY BY TUNGSTEN LAMP



three or four seconds, I could see the yellow of the emulsion on the surface of the plate inside the camera.

The lights in the chandelier aided but very little in the taking of the picture, while the lights in the bay window should have been turned out. The only retouching I did was to rub down the hands of the nearest man on the left-hand side, with alcohol. The print furnished is far from perfect, as it was made before the rubbing-down process was completed; but as it proved to be my last piece of 5×7 glossy Velox, and no additional stock in town, I am forwarding it, with many misgivings.

Using one source of light such as the five hundred watt in contradistinction to a greater number of lamps, is an advantage, in that the cone of illumination is very divergent, and the shadows tend to fall to the rear of the sitters. Having the light portable, the illumination can be very easily controlled. Having the light high above the line of vision, no unpleasantness was experienced in looking directly into the camera. The peculiar stare of the flashlight, even though reflected and diffused, is minus.

Using a faster plate, the exposure could be materially lessened. If thought necessary, backing the plate could be resorted to in order to avoid halation. If there are no lights in the field of the plate, there will be no halation if taken under the conditions here reported. One application in commercial photography of tungsten illumination will be the photography of objects in places where flashlight could not be safely used, even in a flash bag, as in the case of factories forbidding open flames, etc.

The photographing of objects by tungsten light may not be new to many of your readers, but my accidental discovery of its actinic properties last summer has opened up a new field to me. The picture submitted is my first

attempt with a large group and large lamp, and I would like to hear from others who may have experimented along the same lines. I do not consider my attempt as an absolute success. Hind sight is always better than foresight. The hands should have been better placed, while a couple of heads are all but obscured. I attribute some of this seeming lack of posing to the fact that probably my mind was too intent on returning the borrowed tungsten intact, in preference to punting up \$6.85 in case I broke it.

Perspective or Focal Length in Stereo Work

By George P. Morgan



With Illustrations by the Author

There are many subjects that lend themselves to stereoscopy, other than the pretty and quaint bits out of doors where the whole or complete lenses are generally used. Objects of art, and particularly flowers, will fill many an hour to advantage and profit at times when out-of-door work could not, with comfort, be attempted. For this latter work only the back half of the lenses should be used, and, as their focal length is about double that of the complete lenses, cameras of the box type or those having a short bellows are unsuitable. A 5x7 camera with good extension and a wide front panel is demanded. In



SWANS NESTING—Made with complete lenses

FOCAL LENGTH IN STEREO WORK

addition, there should be some arrangement of the front that will make possible the alteration of the separation of the lenses.

For my own use I have simply made several lens panels, which, beginning with the regular separation, have, in regular order, their two lens flanges one-quarter of an inch nearer together than their immediate predecessors. With the kind of work being done, one must get quite close to the subject, necessitating lenses much closer together than for ordinary outdoor work. Another reason for the lesser separation lies in the fact that working so close to the subject, with the usual lens separation, the image would be received at the extreme outer edges of the plate, making it impossible to trim satisfactory stereoscopic pairs from the resultant print.

The idea of using only the back combination of the lens is to get not only a larger object, but better perspective. The falsity of the perspective in very near subjects, photographed stereoscopically with too short a focal length, is painfully apparent in many of the stock pictures on the market. The difference can easily be seen in comparative slides of, say, a few lilies with one of the trumpets pointed toward the camera. In the slide made with the entire lenses, generally about five inches focus, that trumpet will appear to the one viewing it through the stereoscope, as if it were resting on his nose. In the case of the slide made with only the back half of the lenses in place, say with eight or nine inches focus, all parts will be shown in their right proportion and position.

This facility, this increased focal length of the back half of the lenses used alone, is also of occasional use for some subjects in the open. An example is shown in the two slides herewith: "Swans Nesting." The position of the camera, the only one available, was the same in both cases. It is easy to see that the larger image secured by the back lenses only is larger, and, therefore, more satisfactory.



SWANS NESTING Made with back half of lenses only

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

A CORRECTION: On the last page of this department last month was given a formula for removing drying marks. The first item in the formula should read potassium bichromate instead of potassium bromide. Rightly, it reads, for the bleaching solution, as follows:

Potassium bichromate	30	grains
Potassium bromide	15	grains
Water	3	ounces
Nitric acid	7½	minims

Despite our best care, mistakes will sometimes occur, and we must thank several of our local readers for calling our attention, by phone, to this instance, the same day that the magazine was delivered. While we regret the need of such kind offices, we cannot help but feel gratified to find this department so closely followed.—The Editor.

AN IMPROVISED PLATE TANK: A plate tank for occasional use can easily be made from an empty tobacco tin or other inexpensive square-shaped tin vessel of approximately suitable size for the plate used. It should be painted inside with two coats of white bath enamel; and, to hold the plates in position, a sheet of ordinary corrugated board, such as is used for packing mail parcels, can be fixed at each end. These last are also painted with the enamel. In my own practice I simply stand a piece of the corrugated cardboard at one end of the tank, using one or two spoiled plates to hold it in position.—William Lander, Canada.

A UNIVERSAL DEVELOPER: The following formula can be used for films, plates, lantern slides, bromide and gaslight papers:

Metol	24	grains
Hydrokinone	96	grains
Sodium carbonate, dry.....	430	grains
Sodium sulphite, dry.....	350	grains
Water	32	ounces

For Velox, Argo, Cyko and Azo, use undiluted for the contrasty grades. For the soft grades, use one part of water to one part of the developer. For bromide paper, use one and a half parts of water to one part of developer.

PARAGRAPHS PHOTOGRAPHIC

For tray development of films and plates, use one part of water to one part of developer. The factor is 12. For tank development, use five parts of water to one part of developer. Time for development is twenty minutes at sixty-five degrees Fahrenheit. For lantern slides, use two parts of water to one part of developer. Some slides may require the addition of about two drops of a ten per cent. solution of potassium bromide to every ounce of the mixed developer. This is the case when using either Seed's or Lumiere's slides.—Gabriel P. Flores, Ph. D., San Francisco, Cal.

SAVING THE WASTE: In photography, as in other lines of business, it becomes an object of no small moment to eliminate waste. The celluloid of old films, after cleaning off the emulsion, can be cut into bits and dissolved in amyl acetate, making an excellent celluloid varnish. Cut into narrow strips, the same film makes the best of fuses for setting off flash powder. The cleaned-off emulsion can be filtered through clean cloth after the boiling in hot water that removes it; when, mixed with a little gum water, it makes an excellent spotting medium. I find that an ordinary shoe box makes an ideal container for the indexed cards described by Mr. Smythe in the February issue. It keeps them clean and free from dust.—L. E. Whitford, Nebraska, I. P. A. 2620X.

AN IMPROVISED RETOUCHING EASEL: I find that a most excellent retouching desk may be had by utilizing the back of a plate camera. I take the closed camera and place it, back up, on a table, and then raise the frame containing the ground-glass focusing screen as if to insert a plate-holder, raising it until the spring catches. The nearest end is then tilted down until it rests upon the edge of the back, forming an inclined ground-glass surface as shown in the second illustration above. The negative is placed on this tilted surface, where it can be retouched in the usual way. My camera is a Pony Premo, No. 2, and I presume there are numerous other cameras that can be used in the same manner.—F. L. Baldwin, Massachusetts.

BLUE PRINTS ON CLOTH: Nice blue prints can be made on any kind of white cloth, the process is simple and inexpensive, and the results very pleasing. Make two solutions by dissolving one and seven-eighths ounces of citrate of iron and ammonia in eight ounces of water and one and one-fourth ounces of permanganate of potash in another eight ounces of water. To use, mix equal parts and saturate the cloth, hanging it up to dry in the dark. Or, if a print is wanted in a certain place on a large sheet of cloth, the solution can be applied with a tuft of cotton to the desired spot. Print in sunlight or strong daylight until the image bronzes in the shadows; then wash in plain water.—A. A. Howe, California.

METOL POISONING AND OTHER SKIN TROUBLES: Having been a sufferer from metol poisoning and other skin troubles caused by different developers, I thought it might interest some other readers of *CAMERA CRAFT* to learn how I overcame the trouble. At one time my hands were so sensitive to metol and other developers (and even plain hypo seemed to cause my skin to crack) that I thought of giving up photography until I was advised by a friend to use the following mixture, well rubbed into the skin immediately after

CAMERA CRAFT

using any photographic chemical. Equal parts of glycerine and spirits of camphor, to each ounce of which mixture is added ten drops of carbolic acid. I started to use this about nine months ago and have had no trouble with my hands since, although I sometimes work in my dark-room for two or three hours at a time. I had previously tried several salves and mixtures, without results. The above has saved to me one of the greatest of all pastimes,—photography.—George C. Shepperd, Pennsylvania.

TO MARK THE PLATES ON FILMS: When taking the exposed plates or films out of the holders or camera for developing, write the desired number or title across one end or corner with a smooth pointed nail or other dull piece of iron. The friction and a small amount of metal worn off in the writing of the name or number will result in the marking showing quite plain after development. It is simple, worth trying, and the result interesting.—A. A. Howe, California.

SIMPLE MAGNESIUM PRINTING: In a recent number of *CAMERA CRAFT* there was an article describing a home-made apparatus for exposing developing paper to the magnesium ribbon for printing purposes. As some of the readers may not have the time nor taste for making this apparatus, I thought those who have not these requisites might like to try my plan. Most of my time is spent traveling and my baggage space and weight do not admit of my carrying much photographic impedimenti. So this last has been condensed to the greatest possible degree. Every now and then something is discarded and an improvisation substituted. I stick by glass plates, $3\frac{1}{4} \times 4\frac{1}{4}$. Of course a great many of them in one bunch weigh something, but when they accumulate to the extent of inconvenience, they are packed up and shipped off home. My magnesium printer consists of a roll of ribbon of that metal and a pair of pliers; the kind that have parallel jaws. I break off a couple of feet of the ribbon and thread one end through from the handle end of the pliers till it comes out between the ends of the jaws. This, with a candle, constitutes my printing machine. I keep my paper, which, by the way, is of the light-weight sort, covered up and away from the light. Then, on a table or bureau, I lay my negatives out, each with a sheet of gaslight paper underneath it, the weight of the glass negative holding the paper in sufficient contact. The negatives are arranged in a circle with the thinner ones farthest from the center. About an inch of the magnesium ribbon is drawn through the jaws of the pliers and ignited by the candle held about eighteen or twenty inches above the negatives. Then the prints are gathered up and developed in the usual way. Care must be taken to hold the ribbon above a space left without a negative so the ashes will not drop on one of them. Sometimes a dozen or more prints are made with one illumination in this way, and it saves time. It is certainly a simple means to the end. I put the denser negatives nearer the light and the more transparent ones farther away. But be careful to cover up your unexposed paper before igniting the ribbon. As to the exact distance to place the negatives from the center of the illuminated area and the height to hold the ribbon, and also the length of it, experiment will show best.—Louis Casavant, New York.

CAMERA CRAFT

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What Shall I Charge

Perhaps the most trying queries that reach the editorial desk, and reach it with a frequency that intensifies the feeling of disappointment at being unable to answer satisfactorily, are those asking what one should charge for special photographic work. The photographer should appreciate the fact that he is the one that should know, that the factors that determine the charge are all in his possession, not ours. In the case of an amateur who simply wishes to get back a little over the cost of his material, counting the time spent as paid for in the enjoyment he gets out of the work, the matter is a simple one because the cost of the material is easily computed. On the other hand, even if the worker is fortunate enough to be able to figure cost of production in so simple a manner, he should, undoubtedly, bear in mind that in charging on that basis he is taking a rather unfair advantage of men who are dependent upon their knowledge of photography as a means of livelihood, and make his prices accordingly. And this brings us to the matter of making charges based upon cost of production, plus a profit. Cost of production plus a profit is all there is to it. The photographer himself is best able to determine this cost and the best judge of what his profit should be. The cost of production should include, in addition to the cost of the material actually used, a proportional part of the rent, insurance, interest on money invested, depreciation in value of investment, and all those things, together with a proportional part of the worker's own time and efficiency, figured as so many dollars per day. To these figures it will be best to add a larger or smaller amount as "overhead" to cover cost of collection and what may be lost through undelivered work and work unpaid for. If the photographer figures in his own time at a sufficiently high valuation, nothing need be added for profit. This all applies, of course, to the work a photographer does on which there is no set price. The average studio photographer, doing portrait work almost exclusively, goes about it, and perhaps rightly, in an entirely different manner. He determines upon a price per dozen, basing his figures upon the conditions peculiar to his location and the class of work he hopes to secure, and then tries to produce his work economically enough, or in large enough quantity, or both, to allow himself a fair profit therefrom.

But when it comes to a more complicated situation, our correspondents turn to us for help most frequently. For example, one may have made a number of negatives for his own pleasure, only to find later that a few prints therefrom are in demand for a special purpose, a purpose that gives the negatives a somewhat inflated value for the moment. The photographer, no doubt rightfully,

CAMERA CRAFT

feels that he should profit by his good fortune in possessing these particular negatives. But just what to charge is the question. In such cases it would not be far wrong to assume that the original batch of negatives were made to order at a price determined as suggested above, these negatives to be held for a possible selection from at a future date. Even where exclusive control of any given negative is wanted, one will find this method of estimating quite satisfactory and profitable; and, where only prints are wanted, even more so. On the other hand, the price made, as can be explained to the customer, covers only what it would have cost him had he anticipated his wants and placed the order at the time; at least, anticipated his possible wants to the extent of having ordered the negatives that he might later select from them.

The subject is a wide one, one that the photographer would do well to consider to the extent of figuring cost on a few of the unusual commissions entrusted to his care. No merchandising or manufacturing can be safely conducted without a knowledge of costs. Once the cost is fairly accurately determined, the matter of making a price that will pay a profit becomes quite simple. Even with costs known for some particular instance, we could not suggest a price to be charged by another. We were asked in a letter, just to hand, what one should charge to go three miles out in the country, make a 8x10 negative, and furnish six prints. We know one man who would send a boy on a motorcycle and get the negative inside of an hour at a cost in excess of one made in the studio, of only the boy's time and a little gasoline. Another man would hire a conveyance for the purpose, would devote his own more valuable time, perhaps employing the better part of a day in getting just the lighting he wanted. Obviously, the two men should charge different prices for filling the same order.

Mr. McGinnis Here

Stanley McGinnis, of Denver, gladdened our sanctum and showed us a number of beautiful color slides made since his visit here in 1909. He is certainly a master of the art of reproducing both rich and delicate colors, combined with transparency. Mr. McGinnis lectured last year to the Camera Club of New York, the American Institute, and various colleges and clubs, and was on the Orpheum Theatre circuit this season as far as the Pacific Coast. In the four Coast cities in which he appeared he was received with enthusiasm by the audiences, and written up as a headliner by the critics. Mr. McGinnis will spend a little time in California adding new subjects to his collection of color slides before resuming his lecture tour.

H. L. Richardson Again On The Coast

The many friends of the genial "Rich," and he has a host of them in the photographic trade and among the photographers in this section, will be pleased to learn that he will again be in evidence, will again travel this territory. His jovial disposition and his well-known ability as a raconteur, an ability that can even negotiate the *rechauffe* quite successfully, make for a continual welcome. Incidentally, he will look after orders for the Premo line, his enthusiasm for a certain new model of pocket size being almost as contagious as his good humor.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Night Photography

England has a society of night photographers, and the illustrations in the London photographic journals bear witness to the fact that night pictures can be something quite different to the bare lines of illumination lamps that are about the sole product of night photography with us. Mr. Mortimer, writing on the subject in *The Amateur Photographer*, makes some pertinent remarks:

"There is no doubt that the picture maker who would utilize night photography as a means to an end must recognize the importance of the personal equation, but it must not be overlooked that the workers who contend that no representation of night, either in town or country, can be correct unless taken actually under the conditions it is intended to portray, do not consider in many cases the limitations of their medium.

"Modern plates and lenses are strictly limited in their application to night photography, hence the popularity of the lamp-lit Embankment type of picture. Yet the charm of night, whether in crowded, brilliantly-lit cities or on quiet countrysides, is undeniable, and can never be truly interpreted by a matter-of-fact rendering of a collection of gas lamps and electric lights.

"Now and again a straight night photograph rises above its fellows and claims recognition as a picture. This is because the limitations of the medium have been fully grasped and a definite effect aimed at. Much has appeared in the pages of *The Amateur Photographer* concerning the taking of night photographs, and the pros and cons of lenses, plates, and shutters have been well discussed. Our own experience, however, points to the desirability and utility of the small pocket camera, say $2\frac{1}{2} \times 3\frac{1}{2}$, with lens aperture of f4.5, and extremely rapid, well-backed plates on very thin glass.

"The question of lens aperture is then a matter that affects the exposure only. Given a smaller aperture, the limitations of the subject require a little further attention, so

that movement may be avoided. The small camera and short-focus lens allow of greater depth of definition at big apertures. The ultra-rapid, thin glass, backed plates assist in further cutting down the exposure without risk of halation, and the entire apparatus is inconspicuous in use."

A New Concentrated Developer

The following is a new metol hydroquinone formula which has been sent to us by Alexander Mackie with a strong recommendation. The method of mixing is the same as that given by Mr. Boyd, but the proportions are varied so as to give a rather weaker developer. Take

Metol 30 grains
Hydroquinone 120 grains

Dissolve in about five or six ounces of hot water, and then add

Soda sulphite 2 ounces

This gives, as in the other case, a thick solution, which is cleared by adding, dissolved in a little water,

Soda hydrate 80 grains

Finally, dilute up to eight ounces, and for use take one dram to make each ounce of developer. If the quantities given are multiplied by five, a quart of solution will be produced, which will make two gallons of developer when diluted for use.—*British Journal of Photography*.

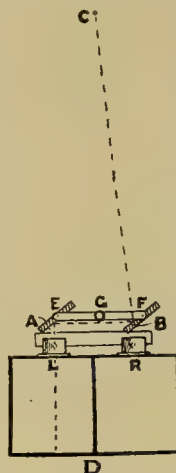
The Use of the Air Pump

A most valuable accessory in the dark-room is a so-called filter air pump, which is useful for several purposes besides filtering. Many patterns of these pumps are made, but one of the very best, known as the University College pattern, is also one of the cheapest, costing only about one and ninepence. It is made of glass, and is attached to the water-tap by means of a rubber tube, fixed either direct to the tap or to a brass screw connection, the latter arrangement being decidedly the more convenient one. By means of a second rubber tube attached to a side inlet, the pump is

connected with any piece of apparatus from which the air is to be extracted, and then the tap is turned on. For filtering it is convenient to have a special flask with a side inlet, but for simple air extraction from solutions this is unnecessary. All that is wanted is a large, soft rubber cork perforated with one hole. A piece of glass tube is put through this hole and then slipped into the rubber tube leading from the pump. The cork is then pressed down firmly over the neck of the bottle containing the solution, and the tap turned on, when the cork at once adheres firmly, by virtue of the air pressure. A cork that fits into the bottle-neck is not required; indeed, such a cork will probably be sucked right into the bottle, and then its removal is a matter of no small difficulty. A large cork that will cover the top of the biggest bottle in use is required, and then this will do for any size bottle down to the smallest vial. If a warm, freshly made solution is put into the bottle and then the pump is set in action, boiling will begin immediately the pressure has dropped sufficiently; and, as the boiling is often very violent, there should be a good space left between the top of the solution and the cork. In five to ten minutes boiling will cease, and the solution will be practically quiescent. The pump can then be removed and the bottle stoppered. It should be noted that the pump may not be stopped by turning off the tap, for this will cause a back rush of water into the bottle. The pumping action is terminated by simply removing the cork from the bottle, which is easily done by sliding it off. A solution freed from air in this fashion will keep very much better than one that is not so treated, and, if a developer, it will be far less liable to produce development stains. Pumping is therefore desirable in the case of all solutions used for development. It is also very useful in the case of stock sulphite solutions, which keep far better when freed from air. A cold solution can be pumped just as well as a warm one, but the process takes rather longer, ten minutes to a quarter of an hour, and it is doubtful if the air is extracted quite so effectually. It may be observed that the pumping process rapidly lowers the temperature of a solution, so in the case of hot solutions it not only removes the air, but also speedily brings the solution down to a reasonable working temperature.—*British Journal of Photography*.

Direct Transpositions of Stereograms

The need of transposing stereo prints, when the negatives have been taken in the ordinary binocular camera is obviated by the introduction of a reflex system illustrated in the accompanying figure, wherein the camera is represented at D, with its pair of twin lenses respectively at L R. A pair of mirrors, A B, are pivoted to a suitable framework, so that they may be turned on their axes. For this purpose, a rod stretching from one mirror to the other, and hinged or pivoted at E F, actuates the mirrors, turning them on their vertical axes. For convenience, a knob is provided at G to facilitate this operation. The mode of operating is as follows: Having set up the camera in the usual way, and having arranged the subject to be taken, an exposure is made through the left lens, L.



Hence light emanating from the subject, C, impinges upon the mirror B, from whence it is reflected to the second mirror, A, which in turn reflects the light to the lens L, by which it is transmitted to the sensitive plate. It will thus be seen that the image, generally received upon the right half of the stereoscopic plate, is received upon the left side. The first exposure having been made, the mirrors are made to take a quarter revolution by pushing the knob, G, from right to left. The light emanating from the subject will now be first received from the mirror A, reflected to the mirror B, and from thence to the right lens, R, which will transmit the image, generally received upon the left-hand end of the stereoscopic plate, to the right-hand end of the plate. Thus direct transposition in the camera will have been accomplished, making the after work of printing from the negatives obtained a much simpler operation than would otherwise be the case. It should be remarked that against this obvious advantage over the ordinary procedure with a twin-lens camera used without the attachment, must be placed the drawback, consequent of the fact that the two pictures are not absolutely simultaneously

taken, making the method applicable only to still life studies. For a great many subjects, however, the system can be adopted with material advantage, and it must not be overlooked that, by having the rod between E and F adjustable as regards length, the relative angle of the mirrors may be varied. This adjustability is extremely useful, as it allows of the bringing of the two images (the stereoscopic pair) to any desired separation upon the plate B, and whatever may be the distance of the subject from the camera. Needless to say, the mirrors employed must be perfectly flat, and the silver precipitated upon the surface used for reflecting. Each lens on the camera must have a shutter working independently, or caps may be used. The system is also advantageous when it is intended to make transparencies from the original negatives by contact, making it, as it does, possible to use the original negative printing frame when exposing. Hence the work of making ordinary paper prints or glass transparencies is greatly simplified, whilst the obvious advantage of adjustability as regards separation of the images is one which is calculated to place this system amongst the practical methods now in vogue.—Theodore Brown in *Amateur Photography*.

To this, A. Thomas adds the following note:

"In *The Amateur Photographer* of December fourth, Theodore Brown shows a way of reversing the stereoscopic images in an ordinary stereoscopic camera by means of two mirrors made to swivel on a vertical axis.

He goes on to state, however, that as the two pictures are to be made in succession, only still life subjects can be thus reproduced.

"It has struck me that if the author of the suggestion had only extended his idea, he could have overcome this difficulty, and taken the two pictures simultaneously in the following way.

"Instead of placing the mirror B in front of the second camera lens at C, if he placed

it at B, so that $C B = C A$, the left camera at L would still receive the view as reflected by the mirrors, but the right camera R would have an unobstructed view, and so could be exposed at the same time as the camera L.

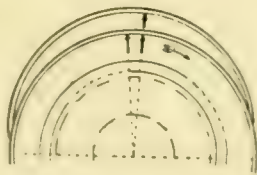
"I claim that this arrangement allows, not only of any view being taken, and of the tilting of mirror B to suit the distance of the object, but has the further advantage that by a proper arrangement of the support the distance C B can be varied (within limits naturally), and we can get any amount of stereoscopic relief desirable. To make matters easier, the view-finder (if such were used) could be placed at D.

"If such an apparatus were placed on the market, I, for one, would be very pleased to purchase it, for the reversal of pictures is a very great nuisance, especially if postcards are wanted, as it means cutting the negative, after having specially marked them to remember which is right and which is left; the storing of two small plates instead of one long one; dangers of scratching, etc., in handling.

A Stereoscopic Improvisation

An absurdly simple idea for a bascule or moving platform for mounting objects which it is proposed to photograph stereoscopically with a single lens is outlined by a writer in the *Photo-Revue*. Instead of moving the apparatus, he displaces the object itself, and although very precise instruments are available for this purpose, the bascule in his case consists simply of two large dinner plates, placed one above the other, as shown in the

accompanying illustration. From the center of the upper plate he then draws, with pen and ink, a line to the rim, marking at that point the



rims of both plates. Then ten degrees to the right of this line he makes another indication on the rim of the upper plate. This distance of ten degrees is conveniently worked out by means of a piece of olecloth, the advantage of which is that it can be folded and can be cut to the exact size of the plate. In the plate used by the author it represents about twenty millimetres. The hollow portion of the plate is then leveled by means of fine sand, and in the center is placed upright a small book or similar object, on the cover of

which may be pinned the moth or whatever it may be that it is desired to stereograph. The position of the moth must approximate to the theoretical axis of rotation passing through the center of the plates. A first exposure is then given with the marks on the two rims coincident, and then the upper or movable plate is turned in such a manner as to bring the second mark in register with the single mark on the rim below, and the second exposure is then made.—*Amateur Photography*.

Finishing of Bromide Prints

T. H. Greewall, in a letter to the *British Journal of Photography*, gives the following details for using a new and improved medium for working up bromides. I have experimented with it and found it to work:

In the case of photographic prints, if it is desired to retain their photographic character, handwork of any kind must be unnoticeable at any angle of view. To secure this end a medium is required which admits of the color of the print being exactly matched. That is a *sine qua non*. Then it should easily yield to all the tones in the print from black to the lightest gray, and should be capable of use in fine line work, stipple, or wash equally well. It must be easily removable without injury to the surface of the print, whilst it must not come off with friction alone, and in case of glossy prints it must admit of waxing or glazing. This seems a large order. But having recently some rather important work to do on some glossy bromide prints, I cast about for the means to fill it. I had for some time used rectified spirit of wine as a means of applying lampblack, etc., to matt and dull surface prints, but this was not sufficiently adhesive for the glossy paper. I had also used chloral hydrate in spotting carbon and ozobrome, but this was in a watery medium, and was barred in the case of my glossy bromides. Was chloral hydrate soluble in spirit? A reference to the Pharmacopœia proved this to be the case, and the order was filled. Now for the working details.

For a black print use the soot obtained by burning turpentine, and add a little black lead used for polishing grates, and not so much as to give a shiny effect. Add also Prussian blue until the black of the print is exactly matched. Of this mixture take a few grains and mix it on a palette with a drop or two of solution of one part by weight of

chloral hydrate and ten parts by measure of rectified spirit of wine. Spread the cream quickly with the camel hair brush which is used for mixing, and let it dry as a thin layer on the palette. On another part of the palette make a similar patch of white, using powdered French chalk and the solution of chloral, and in the same way make patches of intermediate grays, which will be the tints mostly wanted.

For work on the print use a sable No. 2 and No. 1. This must be the kind used for working in oils, not water color. Dip the sable point in pure spirit of wine and, after working it slightly on the tint required on the palette, apply it to the print. The sable must be fully charged with spirit, except, of course, for wash work on a large scale. The spirit may be kept in a small cup or four-drachm measure, and used as a medium throughout—also to clean the sable. No more of the chloral solution must be used than is required to mix the pigments in the first instance.

Now, in the case of glossy prints it is necessary, as the work proceeds, to go over it with an old soft handkerchief which has been well rubbed with a cake of white wax. This will show how the work is progressing. If more is required, go on working on the top of the wax, and wax again until the right effect is obtained. On the other hand, should the work be found too dark, parts may be lightened with a stump moistened with turpentine, or all the work may be wiped off with the aid of the same liquid, and a fresh start made, using lighter tints.

The waxing is necessary to remove surface marks, and, if desired, parts worked on may also be covered with a touch of Japan gold size applied with the finger and smoothed off quickly.

In the case of matt prints the procedure is identical, except, of course, as regards the waxing and the use of turpentine. Spirit of wine may be used in this case instead of turpentine to clean off any work which has been overdone, but it must not be expected that the last trace of gray is so easy to remove from a matt print as from a glossy smooth surface.

It is quite possible some makes of bromide paper may be coated with a gelatine which resists the action of the chloral hydrate, especially if treated with alum or formalin.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Night Photography

In an article on outdoor photographs at night, a writer in the February *Woman's Home Companion* makes the following interesting report:

"Movement across the field of view of any object or person while the exposure is going on will do no harm, so long as the movement is continuous and not self-illuminated. Thus, in making a street-scene, no account need be taken of the pedestrians if they do not stop in front of the lens for any length of time. The same applies to horses and carts, but automobiles, street-cars, or any vehicle which carries a light of any kind, must be kept out of the picture. When you see any such lighted moving object about to cross your field of view, you will cap the lens—very gently, so as not to disturb the position of the camera—and then uncap it when the disturbing lights are gone."

Reproduction of Negatives

The satisfactory duplication of negatives is a question that often presents itself to the photographer. As a rule, prints from reproduced negatives show a decided tendency to flatness and lack of brilliancy, the high lights of the original are depreciated, and the delicate half-tones lost.

When the reproductions are reduced in size it is an easy matter to obtain duplicate negatives possessing all the good qualities of the original, and but little of the sharpness or brilliancy is lost; but it is another matter when it is found necessary to enlarge; then the photographer begins to experience difficulties, particularly if the enlargement is to be more than doubled in size.

It is, of course, essential to have a good negative to begin with. One possessing good definition and not too dense or contrasty, such a one as can be secured by a full exposure and normal development. For a positive, the use of a medium slow plate is advised, fully exposed and de-

veloped with a soft-working developer to secure all the detail of the original. Do not use transparency plates, as they work too contrasty.

For the enlarged negative, use a non-halation plate and give all the exposure the plate will stand, beginning development with a moderately weak, soft-working developer for detail, and finishing with a strong, one-solution hydrochinon developer, strong in bromide, for density.

Reproduced negatives lacking in density are worthless and will never give satisfactory prints, and under-exposures are equally bad, and had better be thrown away and another exposure made.

Duratol For Warm Blacks

A correspondent asks us for a developer that will give warm blacks on Artex paper; and, as a professional friend has just given us his formula, using Duratol, an excellent, non-poisonous developer, we would advise its trial.

Hot water	35	ounces
Duratol ..	15	grains
Sulphite of soda, dry...	½	ounce
Carbonate of potassium	¾	ounce
Hydroquinone ..	60	grains

An Artex demonstrator recommended the above to a friend of his in the East, who in turn passed it on to our friend, the latter finding it excellent. The Duratol is first dissolved in the water, then the two salts, previously well mixed, and lastly the hydroquinone. The solution keeps well if the bottle be kept well corked.

How To Keep Your Trays Clean

A note in the *British Journal of Photography* advises the keeping of large wide-mouthed bottle of acid bichromate of potash on the dark-room shelf as a general cleaning agent. I have a good personal experience of its value, having long kept a stock solution of saturated bichromate of potash with ten per cent nitric acid added for reversing negatives. A teaspoonful of this

CAMERA CRAFT

to an ounce of water will effectively clean measures or trays. The *British Journal of Photography* advises sulphuric acid—it is immaterial.

Per Cent Solutions

An Iowa reader asks us to give a table which he has seen in some publication in the past, but which he cannot now locate, giving the grains in each fluid ounce of a solution for a given per cent of strength of the salt. As the table will no doubt interest other readers, we copy it from an old issue of *Western Camera Notes*, a magazine amalgamated with our own a few years ago.

In each fluid ounce of a solution of:

1 per cent there are...	4.56 grains
2 per cent there are...	9.12 grains
3 per cent there are...	13.67 grains
4 per cent there are...	18.22 grains
5 per cent there are...	22.78 grains
6 per cent there are...	27.34 grains
7 per cent there are...	31.89 grains
8 per cent there are...	36.45 grains
9 per cent there are...	41.01 grains
10 per cent there are...	45.56 grains
11 per cent there are...	50.12 grains
12 per cent there are...	54.67 grains
13 per cent there are...	59.23 grains
14 per cent there are...	63.79 grains
15 per cent there are...	68.34 grains
16 per cent there are...	72.90 grains
17 per cent there are...	77.46 grains
18 per cent there are...	82.01 grains
19 per cent there are...	86.57 grains
20 per cent there are...	91.12 grains
25 per cent there are...	113.91 grains

The United States standard weight for an ounce of water at sixty degrees Fahrenheit is 455.6216 grains, but in the table above the smaller decimals have been disregarded, as neither ordinary graduate or scales would suffice for its division.

Removing Fogged Spots

A local worker has gained some considerable renown by his ability to remove patches of fog from otherwise good negatives. Having an inquiry recently, concerning the removal of such a spot, I looked him up in order to find out how he went about the work. He advised that it all depended upon where the fog was, whether on the front surface of the film or on the back next to the glass. If the former, rubbing down with a piece of linen cloth or chamois leather, just barely moistened with alcohol, often worked

wonders. However, it was sometimes necessary to slightly intensify the place after the rubbing down had removed the surface of the film, using any good formula recommended for local intensification. Where the fog was next to the glass the rehalogenizing of the negative often got rid of the fog if the after developing was stopped and the negative placed in the fixing bath before the development had gotten down to the fogged part next the glass. To do this last, bleach the negative in:

Water	10 ounces
Potassium bichromate ...	100 grains
Hydrochloric acid	50 minims

After the negative is bleached, wash thoroughly and proceed to redevelop in a strong developer, doing so only partially so as to get no lower than the surface of the film. If too thin the negative may be intensified after fixing and washing as usual.

Improvised Lens Mounts

Reading one time in *CAMERA CRAFT* about using the back combination in front of the front one in order to secure a larger image, I was a little puzzled as to how I could hold the lenses in place in their reversed position. I overcame the difficulty in the following manner. I took a strip of paper about three-quarters of an inch wide and twelve or fourteen inches long and applied mucilage to all of one side except enough at one end to encircle the rear combination once. Then I took that back combination and rolled it up in this strip so as to form a pasteboard ring, set it aside to dry and later removed the ring. When I want to use the lens with the combinations reversed I leave the front combination in place, slip the ring about half way over it and then place the rear combination in the remaining half with the threaded end out or to the front. These pasteboard rings are useful in other ways. I sometimes wish to use a combination of a ray filter and copying lens. All one has to do is to slip the ray filter on the lens, a proper sized ring on the latter, and then slip the copying lens into the end of the ring. When using this combination the exposure is about thirty times that required for the regular lens used alone. That is, should the exposure be one second with the lens alone, with ray filter and copying lens added the exposure would be thirty seconds.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The New York Albums

State Album Director Louis R. Murray, 17 Hasbrouck Street, Ogdensburg, New York, advises, too late for mention in our February issue, that the January album was routed and the February album well under way. Our members in New York will do well to send a few prints to Mr. Murray in order that their names may be placed on the route list of these and other albums from outside states. They will find them very interesting and also a good means of selecting desirable exchanges.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Harry Gordon Wilson, Director Stereoscopic Division, 4954 Washington Ave., Chicago, Ill.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

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4x5, 5x7, and post cards, developing papers, of farm scenes, and landscapes principally; for miscellaneous subjects. Class 1.
- 3260—Mrs. Covina Ellis, Box 281, Ilmo, Mo.
5x7 and smaller, developing papers, of interiors, landscapes, street scenes, and views of the Mississippi; for anything good. Class 1.
- 3261—W. L. Cornelius, Box K, Battle Creek, Nebr.
Class 2.
- 3262—Chas. A. Failles, Y. M. C. A., Indianapolis, Ind.
8x10 and smaller, various papers, of miscellaneous subjects; for the same. Class 1.
- 3263—Will Popp, Route I, Box 32, Clearwater, Kans.
3¼x5½, developing paper mostly, of general views, landscapes, and various subjects; for scenery and general subjects. Post cards only. Class 1.
- 3264—Arthur C. Gyllenborg, 312 9th Avenue West, Duluth, Minn.
Class 2.
- 3265—William Sjoselius, 24 East Ninth Street, Duluth, Minn.
Class 2.
- 3266—Miss Bertha Williamson, Valdez, Alaska.
Class 3.
- 3267—David A. Riddell, 528 2nd Avenue W., Calgary, Alberta, Canada.
Class 2.
- 3268—E. H. Peshak, 130 S. Spring Street, Beaver Dam, Wis.
Class 2.
- 3269—J. C. Kyle, Colfax, Ill.
Post cards, developing paper, of landscapes; for outdoor views. Post cards only. Class 1.
- 3270—Frank Morris, R. F. D. No. 12, Lostant, Ill.
Class 2.
- 3271—M. de Leon Imus, Lock Box 91, Chelan, Wash.
Class 2.
- 3272—Frederick C. Lee, Box 643, Delhi, N. Y.
4x5, developing papers, of landscapes, miscellaneous subjects, and animals; for miscellaneous views. I desire regular weight prints 4x5. Class 1.
- 3273—Mrs. J. L. Wiley, Nevada City, Cal.
5x7 and post cards, developing papers, of landscapes, water and mountain views; for typical views of different parts of American or foreign states, also good pictorial views. Desire post cards and 5x7 rough or semi-glossy prints preferred—no printing-out paper.
Class 1.
- 3274—A. C. Bevis, R. F. D. No. 1, Johnstown, Ohio.
Class 2.
- 3275—Mrs. John Corvie, R. F. D., No. 3, Warsaw, N. Y.
4x5, various papers, of landscapes, marines, and animals; for the same. Desire post cards and developing paper prints. Class 1.
- 3276—H. T. Rupert, 15 W. Fourth Street, Oil City, Pa.
Class 2.
- 3277—E. S. White, Lowell, Mich.
Class 2.
- 3278—George C. Shepperd, Center Avenue, West Pittsburg, Pa.
3¼x5½, developing paper, of general subjects; for the same. Prints and post cards. Class 1.
- 3279—Albert Kalin, 924 Maryland Avenue, Portland, Ore.
2¼x3¼, 3¼x5½, 6½x8½, and 4x5, various papers, of landscapes, river scenes, park views, ships, Panama Canal, and portraits; for foreign pictures, landscapes, and portraits. Class 1.
- 3280—John F. Meissner, 1364 First Street, Milwaukee, Wis.
Class 2.
- 3281—B. W. Lemley, 29 South La Salle Street, Chicago, Ill.
4½x6 cm, 3¼x5½, and 5x7, developing papers, of landscapes, flowers, and genre; for the same. Class 1.
- 3282—William L. Allen, U. S. M. C. Rifle Range, Winthrop, Md.
3¼x4¼, developing paper, of mostly scenery, but have some marine views; for anything of interest. Post cards only. Class 1.
- 3283—Clark A. Morse, Box 43, Prineville, Ore.
3¼x5½, developing papers, of street scenes, and Central Oregon landscapes; for street scenes and landscapes. Class 1.
- 3284—B. E. Whitcher, Waltham Street, Lexington, Mass.
Class 2.
- 3285—C. M. Garmon, Thomaston, Mich.
3¼x5½, developing paper, of miscellaneous subjects; for anything of interest. Post cards only. Class 1.
- 3286—Bert L. Green, Box 202, De Beque, Colo.
Class 2.
- 3287—Ernest N. Corson, East Corinth, Maine.
Post cards, of farm scenes and buildings; for the same. Class 1.
- 3288—Gertrude S. Nelson, Lock Box 116, Grafton, N. D.
2½x4¼, developing paper, of general subjects; for animals, scenery, and buildings. Unmounted prints only. Class 1.
- 3289—F. C. Perkins, Exeter, Cal.
3¼x5½ to 6½x8½, developing paper, of orange orchards, hay scenes, mountain scenery, landscapes, and general country views; for any interesting scenes, as I desire to get pictures from different parts of the country more than to get any particular kind of pictures. Class 1.
- 3290—Weld Vliet, Box 2, Port Murray, N. J.
4x5 and 5x7, various papers, of animals and landscapes; for animals, landscapes, and scenes. Desire views of Western, Mexican, and foreign countries on 5x7 and smaller prints with white margin. Class 1.
- 3291—Charles Hunt, Lewisburg, Ohio.
Class 2.
- 3292—Y. M. Brown, Box 83, West Haven, Conn.
Cabinet and smaller, printing-out paper, of types of different races, artistic and interesting scenes, model poses, and figure studies; for the same. Prints and post cards. Class 1.
- 3293—W. W. Burson, Jr., 120 Oakley Avenue, Rockford, Ill.
3¼x4¼ to 10x12, various papers, of figure studies, children, landscapes, and street scenes; for figure studies, nude studies, and artistic landscapes. No record photos. Class 1.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

3294—Max H. Dunlap, Box 17, Mentone, Ind.
3¼x5½, developing papers, of scenery, etc.;
for post cards and prints. Class 1.

RENEWALS.

188X—Edward Truman, Burton, Ohio.
Class 2.

1434—John Nelson, Box 34, Ericson, Neb.
Stereographs and post cards. Class 1.

1684X—E. J. Houser, Wooster, Ohio.

Postcards only of landscapes, snow scenes,
views of Niagara Falls and vicinity, and
other interesting subjects; for post cards
only of landscapes, mountain, marine and
historical subjects. Desire especially views
of Royal Gorge, Grand Canyon, Garden of
the Gods and any other good mountain scen-
ery. Only cards sent under cover will be
answered and right to reject undesirable
work will be reserved and extended. Class 1,
for good work only.

1859—A. B. Stanley, Lone Rock, Ore.
Class 2.

1874—T. B. Haynes, R. F. D. No. 1, Creston,
Mont.

3¼x5½, of landscapes and portraiture; for
anything of general interest. Class 1.

1926X—W. E. Hadsell, Apartado 167, Vera
Cruz, Mexico.

Post cards of interesting and pictorial sub-
jects; for the same. Only strictly first-class
work sent out and accepted. Class 1.

2009X—Dr. C. F. Meacham, Bellows Falls, Vt.
3¾x5½, developing papers, of general views;
for the same. Prints and post cards.
Class 1.

2049X—Mrs. Vercia Louck, Kalona, Iowa.
Post cards and prints. Class 1.

2123—J. B. Oheim, P. O. Drawer M. Henrietta,
Texas.

Will exchange for anything interesting, no
matter what it is, if it is original work.
Class 1.

2229—Clare W. Faulkner, Box 647, Dawson,
Yukon Ter., Canada.
Class 2.

2232—J. L. Park, 7939 Susquehanna St., Pitts-
burg, Pa.

Will exchange for unmounted and unusual
stereo prints only. Class 1.

2274X—E. J. Towne, South Dayton, N. Y.
Post cards. Desire only first-class work;
all post cards received and sent on approval.
Class 1.

2275—William F. Smith, R. F. D. No. 1, San
Jose, Ill.

4x5, developing paper, of landscape, build-
ings, groups and flashlights; for post cards
and regular prints, especially landscapes and
buildings. Class 1.

2395—C. A. Thomas, R. F. D. No. 1, Box 28,
Greensburg, Kan.

5x7, and post cards, of landscapes on farm
and the like; for anything of general inter-
est. Class 1.

2406—V. G. Heverly, 2406 P. O. Bldg., Center
Point, Iowa.

2¼x3¼ to 5x7, developing paper, of home
portraits, landscapes, animals, and other
miscellaneous subjects; for anything of in-
terest. Class 1.

2426—John J. Slater, R. F. D. No. 3, Box 43,
Reine, Wis.
Class 3.

2621X—Melvin Bacon, Fredonia, Kan.

Wishes to exchange speed pictures and
landscapes; for landscapes, etc. Class 1.

2688—Chas. C. Ferris, Box 693, Syracuse, N. Y.
Class 2.

2723—Al Cummings, 3712 No. Irving Ave., Chi-
cago, Ill.

3¼x5½ and 4x5, developing paper, of park
scenes, streets, and points of interest in
many cities; for the same. Post cards and
prints. First-class work only accepted and
sent out. Class 1.

2744—Mrs. Elmer E. Robbins, 101 School St.,
New Bedford, Mass.
Class 2.

2761—Robert J. Hyland, Box 43, Hayfield, Minn.
3¼x5½ and 4x5, developing papers, of land-
scapes, views, and river scenes; for the
same. Post cards only. Class 1.

2764—Osbourne A. Walker, Ellsworth, Minn.
3¼x5½ and 6¼x8½, developing papers, of
landscapes, river and lake scenes in Minne-
sota; for ruins, landscapes, places of his-
torical interest, especially foreign, only. De-
sire only 6¼x8½ in U. S. Class 1.

2780—V. A. Ulrich, care Shaw & Borden Co.,
Spokane, Wash.
Class 2.

2839—J. H. Chinnery, Butte Falls, Ore.
Class 2.

2885—Geo. Macaulay, 167 Allen St., New Bed-
ford, Mass.

3¼x4¼, of marine and miscellaneous land-
scapes; for any interesting subject. Good
work only. Class 1.

2889—O. E. Rupert, Trueman, Pa.
Class 2.

2891—M. L. Myers, Odd Fellows Bldg., Sedalia,
Mo.

4x5 and post cards, various papers, of pho-
tos, children, and local scenery. Class 1.

2908—John D. Morrill, care State Fish Hatch-
ery, Panguitch, Utah.

5x7, post cards, and stereos, developing pa-
per, of mountain scenery, lakes, landscapes,
winter scenes, etc., for anything interesting.
Class 1.

2931—G. R. Littlefield, Summerland, Cal.
Class 2.

2965—Rev. Jos. S. Hirner, Fulton, Mo.
Class 2.

CHANGES OF ADDRESS

744X—F. L. Church, 417 N. Belinger St.,
Herkimer, N. Y.
(Was 406 Mohawk St.)

2151X—Pres. Fidler, Weed, Cal.
(Was Bray, Cal.)

2690—Bartlett Johnston, Wenatchee, Wash.
(Was Santa Rosa, Cal.)

2882—Henry C. Addison, 2007 N. 5th St., Kan-
sas City, Kan.
(Was 1977 N. 5th St.)

2991—Charles Hutter, 123 Millbury St., Wor-
cester, Mass.
(Was Fort D. A. Russell, Wyo.)

3056—George Witte, Jordan, Minn.
(Was Parker's Prairie, Minn.)

3115—L. M. Pierce, Box 350, St. Joseph, Mich.
(Was Galesburg, Ill.)

3237—Midge Waterbury, Box 682, Kalispell,
Mont.
(Was Kalispell, Mont.)

WITHDRAWALS.

3099—J. D. Sellars, Hamilton, Mont.

Will not be able to do any exchanging for a
time.

3121—Webster P. Patterson, 2312 4th Ave.
North, Seattle, Wash.

Will not be able to exchange for a time.

3132—H. Winterburn, Fort Flagler, Wash.
Will not be able to exchange for a time.

For Large Groups

We have had, just recently, the pleasure of
inspecting some fine examples of banquet
groups, large parties, and the like, made with
the Victor Portable Flash Lamp. The soft-
ness of the lighting, the wonderful amount
of detail, and the entire absence of stare, all
go to show that the use of this lamp has ad-
vantages over the ordinary methods—advan-
tages which should not be overlooked by the
photographer desirous of turning out the
best class of work. Circulars will be gladly
sent to any enquirer by the manufacturers,
James H. Smith & Sons Company, 725 East
Thirty-ninth Street, Chicago, Illinois.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

St. Louis R. R. Y. M. C. A. Camera Club

This new and flourishing camera club held its first Annual Exhibition February twenty-second in their club rooms in the R. R. Y. M. C. A. Building, Twentieth and Eugenia Streets, St. Louis. Although the club is not yet six months old, over one hundred fine prints were exhibited. The night was anything but propitious for a large attendance, on account of a blizzard; still, there was a large enough crowd present to assure the club that its progress is being followed with interest.

William Burton, one of America's greatest newspaper photographers, gave an exceedingly interesting lecture on the "History of Photography," afterwards showing a number of slides depicting scenes in the life of Washington and pictures he secured in his everyday work as staff photographer for the *St. Louis Times*, these last being also supplemented by a short talk from Mr. Burton. On account of the unfavorable weather conditions the club decided to hold the exhibition open until March second. March seventh the prints will be criticized and the ten best prints selected to hang permanently in the club rooms, all the remaining prints being preserved as a record of the club's progress.

Second Annual Exhibition

The Winnipeg Camera Club invites the submitting of prints for its Second Annual Exhibition, to be held from May eighth to eleventh, inclusive. Gold, silver and bronze medals will be awarded to the best three pictures in the exhibition; open to any amateur. There will also be the "McMillan Challenge Cup" for the best picture by a member.

Prints must be delivered, carriage paid, to the Secretary of the Winnipeg Camera Club, Enderton Building, Winnipeg, Canada, on or before the twenty-seventh of April, and the secretary notified by letter. No entry fee will be charged. Pictures must be mounted and may be framed. Each picture must be entirely the work of the exhibitor. Each picture must have inscribed on the back of the

mount the name of the exhibitor, the title, and the club (if any) to which he or she belongs.

Any number of prints may be submitted, but only such as, in the opinion of the Jury of Selection, show distinct artistic merit, will be hung. Each exhibitor will be furnished with the catalogue issued by the Club, which will be official notification of acceptance or rejection. Exhibits will be carefully packed and returned by express after the close of the exhibition, unless otherwise requested.

New Chicago Club

The Division Street Young Men's Christian Association has a "Kamera Klub" which was organized January eighth. They have, at present, a room fitted up for developing, printing and other photographic work. John A. Kennedy is secretary-treasurer and the address is Room 243, 1621 West Division Street, Chicago, Illinois.

"Photography"

We have just received from the American publishers a copy of a new and important work entitled "Photography," by E. L. Hoppe and others. The book is collaborated by a number of well-known European experts and authorities on photography, and contains over one hundred and twenty illustrations, including reproductions of original photographs by the authors and characteristic examples of the work of such well-known pictorialists as J. Craig Annan, Will Cadby, H. S. Cheavin, F. R. M. S.; Dr. W. M. Daniels, Rudolph Dührkoop, Frederick H. Evans, W. H. Rogers, T. M. Waver and Miss R. M. Whitlaw. The book contains four hundred pages, including a complete contents table and a classified index, and we honestly believe that it constitutes a very important addition to photographic literature. The retail price of the book, bound in red cloth, leather back, is two dollars. The Photographic Times Publishing Association, 134 West Fourteenth Street, New York, are American publishers, and they will gladly supply copies at the price named.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

J. T. Bertrand, the Cramer plate man, recently took unto himself a handsome bride. (How can these old-timers do it?)

The James Studio has recently blossomed out in some new accessories that add much to its appearance.

Iwasaki, the leading Japanese photographer of Fresno, has sold his studio to a fellow-countryman named O. Seki.

Hartsook's three studios have been doing a large business. Mr. Hartsook's employees numbered one hundred and thirty-five during December.

Dr. Mees At Kodak Park

In line with their policy of providing whatever might be necessary to the maintenance of their leading position in the manufacture of goods for every important phase of the photographic industry, the Eastman Kodak Company spares no expense. This means not merely the purchase of a business or of formulæ, but means what is often more important, the association with themselves of the man or men who have built up that business. In carrying out this policy, they have recently purchased the business of Wratten & Wainwright, Limited, of Croydon, England.

Wratten & Wainwright, Limited, have long held the premier position amongst European manufacturers of color-sensitive plates and other products dealing with orthochromatic and color-separation problems. Their success in this particular field has been due largely to the work of Dr. C. E. Kenneth Mees, who will soon become a part of the scientific staff at Kodak Park, making this same line of work that he has pursued so successfully in England, his specialty.

The special products of Wratten & Wainwright, Limited, include the Allochrome, a plate remarkably sensitive to green and yellow, and the Panchromatic plate, sensitive to the whole spectrum, including deep red. Special light and tri-color filters and dark-room safe lights are also manufactured.

A special laboratory building is to be erected at Kodak Park, where Dr. Mees will continue his research work and also complete the plans for the manufacture of the Wratten & Wainwright products in this country. Meanwhile the Wratten & Wainwright products will be imported and will prove of extraordinary value to all those requiring plates and filters for orthochromatic and trichromatic work.

Send For This

A convenient and handy necessity for every owner of a camera or kodak is a supply of Japanese hand-made tissue for cleaning lenses. The Wollensak Optical Company of Rochester, New York, inform us that they will be pleased indeed to send any reader of CAMERA CRAFT a booklet of this tissue gratis upon receipt of request, or the same can be obtained of any dealer in photographic supplies.

Some Interesting Work

Amateurs may derive a great deal of pleasure from their camera during the evenings by photographing members of the family, groups of friends, or cozy corners of the home, by flashlight. For the best results we recommend Actino Flash Cartridges, which insure sufficient illumination and which make very little noise or dirt. They are manufactured by J. H. Smith & Sons Co., 725 E. 39th St., Chicago, and contain the famous "Victor Flash Powder," which is so well known to the professional photographers.

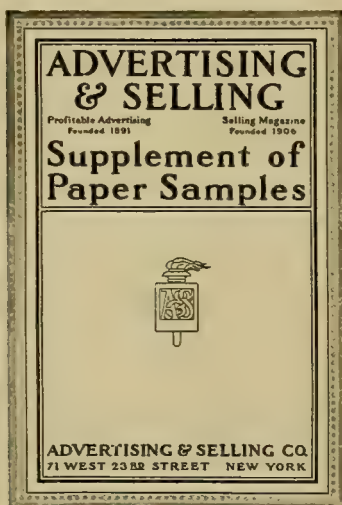
Platora Paper

We would call the attention of our readers to the announcement of the Photo Products Co., Department E, 6100 La Salle Street, Chicago, which appears in our advertising pages for the first time this month. The firm is far from being a new one, originating in the consolidation of the Chamberlain Company with the Cossitt Company, some six or seven years ago. Mr. Chamberlain is one of the oldest makers of photographic paper, and their present product, Platora, is well

worth investigation by those who desire a developing paper of merit. Send for a copy of "Doing It Right," addressing the firm as above.

Fine Paper and Printing

Advertising and Selling Magazine, which is devoted to the sales and advertising problems of manufacturers, has materially increased its value to its readers by giving them practical ideas and suggestions of how printed matter, catalogues, booklets, folders, etc., can be most effectively prepared. They have issued a "Supplement of Paper Samples," a handsome book with a three-color embossed cover, containing samples of cover, book, bond, blotting papers, and others, appropriately and attractively printed.



This book contains samples of paper made by some of the leading paper manufacturers in this country, and the inserts have been prepared by such printers as Chasmar-Winchell, Trow Press, Munder Thompson Company, Electro Tint Engraving Company, etc. This book is valuable to any printer and advertising man and should be in every manufacturer's library. Further information on the subject can be obtained from the publishers in New York.

A Very Fine Catalogue

We have just had the pleasure of inspecting the new Wollensak catalogue, which, by the way, is the most elaborate one that this firm has ever gotten out, both from a practical and an artistic standpoint. The catalogue lists, in addition to the regular Wol-

lensak line of lenses and shutters, their new products, the Vesta Portrait lens working at f-5, Seires II Velostigmat working at f-4.5, and the new Verito Diffused, Focus lens working at f-4. The fine new Wollensak Ray Filters are also listed in sizes from one and one-quarter to four and three-quarters inches diameter.

The cover is printed in two colors, gold and embossed, with an inner cover on a lighter weight of the same stock, both being Hammered Art Mounts, while the body, consisting of thirty-two pages, is printed in two colors on the finest grade of book paper.

We would advise all our readers to get a copy. Simply address Wollensak Optical Company, Rochester, New York, and ask for one of these new catalogues. It will be found most interesting and instructive.

An Increased Business

Word comes from the Towles-Schofield Company that, owing to the fact that their orders have far exceeded their capacity and expectations, they have been compelled to equip a new plant and move the factory from Richmond to Washington. Our readers will note the new address used in their advertisement on another page. That the orders for a flashlight machine, even one so efficient and practical as the Towles-Schofield Smokeless Automatic, should come in in such numbers, is conclusive evidence of the fast-growing popularity of flashlight photography, a tendency which we have noted and sought to encourage for the past two or three years.

An Inexpensive Illuminator

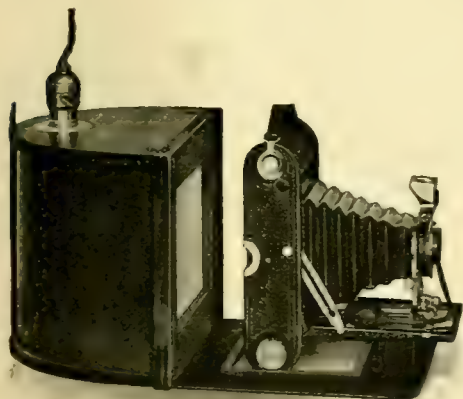
The Eastman Kodak Company has placed a practical device on the market for the purpose of further simplifying the method of making bromide enlargements with the Brownie Enlarging Camera.

The Brownie Enlarging Camera Illuminator eliminates daylight as a necessary element for the making of enlargements with this little camera, but we see many other uses for such an Illuminator that will appeal to most every amateur who makes his own prints and would like to make an enlargement occasionally from his best negatives.

As the Illuminator was fully described in our advertising pages last month, we will only say that its construction gives one the benefit of all the reflected light from a seventy-five candle power Tungsten, which is

recommended to be used with it. This volume of light has the least possible obstruction in being diffused, as a flashing opal diffusing screen is used. This is not to be confused with ordinary opal glass. Being flashed only on one side, the light is reduced no more than with an ordinary ground glass, but as great diffusion is secured as though two or three ground glasses were used.

When the Brownie Enlarging Camera is placed in front of the Illuminator, enlargements may be made on bromide paper in from one to ten minutes and the necessity



for using daylight be entirely done away with; but for the amateur who wishes to make enlargements of any size by using his Kodak, the problem of apparatus is solved by this inexpensive device.

It has been difficult for most amateurs to arrange a suitable place to enlarge by daylight, and the apparatus for enlarging by artificial light has in most instances been too expensive.

The Brownie Enlarging Camera Illuminator is not only convenient and inexpensive for enlarging, but makes an excellent light for contact printing; and when its orange screen is placed over the white light it is equally convenient for developing the contact prints or enlargements. The Illuminator sells for three dollars and may be had from your local dealer.

Celebrates His Birthday

James Milner, a prominent photographer of Spokane, celebrated his sixtieth birthday anniversary Thursday evening, February twenty-second, when he invited the local fraternity to a theater party at the American.

Later, on invitation of B. A. Johnson, the party went to his store on Riverside Avenue, where refreshments were served. William Rundel, of the Libby Art Studio, presented Mr. Milner with a silver-mounted umbrella on behalf of those present, among whom were: Mr. and Mrs. Christian, Mr. and Mrs. Charles Libby, Mr. and Mrs. Ingles, Mrs. Adams, Miss Adams, Miss Adaline Libby, Miss Rogers, Miss Read, Miss Kellom, Mrs. Hollingsworth, Miss Dunn, Mrs. Carpenter, Miss Carlson, James Milner, Mr. Boren, Mr. Dennison, William Rundel, Mr. McNab, Mr. Porter, Mr. Nelson, G. A. Lindsay, Mr. Percy King, George Libby, Jr., Mr. Gowan, B. A. Johnson and Mr. Donahue.

As an example of good fellowship in at least one city, this event is specially noteworthy. Every photographer in Spokane accepted the invitation to be present, and each one turned out. Our informant was unable to secure more than a partial list of names.

Three Floors Soon

Five years ago, Willoughby, of "Square Deal" fame, moved a few doors while the building was torn down and a new one put up. On or about May first he will return to the old number, but to a new building, and will occupy three floors, with all the accommodations that a modern building offers, in place of the one loft previously found sufficient. This speaks most eloquently of the square deal method to which Mr. Willoughby has so persistently held. 810 Broadway is the new number, and it is a good address to put on an inquiry or an order for a photographic bargain. Send for his latest list, just to get the new number fixed in your mind. Just address a card, Willoughby and a Square Deal, 810 Broadway, New York.

A Meritous Utility

We have been notified by the manufacturer of the Dependable Flashlamp and Bag that they have placed the sole agency for their Bag with J. H. Smith & Sons Co., 725 E. 39th St., Chicago. As this bag is very light and compact, as well as inexpensive, we predict a very large sale for it.

Bissell College of Photo-Engraving

Among the students for February we were pleased to meet Fred W. Crone, a brother of Harry Crone, who was a student at the Bissell College of Photo-engraving eight years ago.

CAMERA CRAFT

Harry Fox, student of 1901, was married last month to Miss Georgia Countryman of Canajoharie, New York. Also Victor Gabel, student of 1911, sends us news of his recent marriage.

Professor Scott is happy over a new electric heater for hypo alum toning, which has just been installed in his department.

The College Camera Club has just received the fine collection of pictures of the Photo Era Salon Exhibit, consisting of the prize-winners in their various monthly contests, about two hundred prints in all.

Hunt Leases Hotel

A deal was closed yesterday whereby P. S. Hunt, the photographer, leased the Valdez Hotel building from Fred Wilson for a period of three years, with the option of renewal for two years more.

Mr. Hunt has leased the entire building, using the portion formerly occupied by the Red Cross Drug Store for his photographic supplies and studio, and conducting a first-class hotel above. He expects to move in about January first.—*Valdez Miner.*

An Exposure Meter of Merit

Our readers are referred to the advertisement of the Heyde Exposure Meter, Herbert & Huesgen Company, sole agents. This meter, a meter especially imported for the amateur who desires above all things correct exposure, is constructed on an entirely different principle from most exposure meters. Its American sponsors, the Herbert & Huesgen Company, claim that the length of time, from one minute to an hour, depending upon the density of the shadows, required to tint the sensitive paper in most exposure meters, is entirely eliminated; as, with the Heyde Meter, the correct exposure time is taken by means of a blue glass prism, and the operation consumes hardly a minute, even for the densest shadows. The importers further claim that it is entirely unaffected by weather conditions and that the saving of money heretofore wasted in spoiled plates and films will more than pay for the meter.

Further information may be had by writing to Messrs. Herbert & Huesgen Company, 311 Madison Avenue, New York.

New Roll Film Cameras

Senco is the name of a roll film camera that has been added to the excellent Seneca line. These dainty little instruments appeal

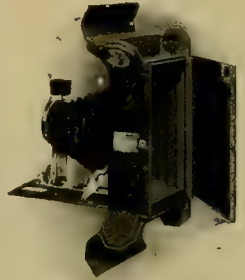
altogether to the amateur and tourist; they are easy to load any time, anywhere, in daylight or dark. They carry six or twelve exposures as the operator may desire; are compact, light, and possess great individuality and elegance of finish. The faster lenses and faster films of today have made this style of cameras immeasurably better in theory than it was a few years ago. The point should be emphasized here, that these cameras are confined to the accommodation of spool films. The film pack and plates cannot be used. Again, there is no ground glass for focusing, a feature so desirable in landscape work, portraiture and composition.

The design of the film chambers, the security of the light-tight character of the protecting walls, and the unique device for holding the spool are some of the most marked features. The back of the camera is hinged, making it an integral part of the instrument, a distinct advance in constructive design. Made of aluminum, they are light in weight, and they are covered with genuine seal grain leather. The metal parts are nicked. The lens and shutter equipment are well calculated to keep these instruments in the front rank. In the Senco camera, one without previous photographic experience can obtain a convenient and satisfactory camera for amateur work. Of course, it should be clearly understood that they accommodate any roll film of standard manufacture.

Full descriptive matter of Senco Roll Film Cameras may be obtained by addressing Seneca Camera Manufacturing Company, Department H, Rochester, New York.

Photographs of King's Visit to India

Never was a royal progress better illustrated than that of the King and Queen to the Delhi Durbur in December. Newspapers and magazines have vied with one another in the excellence of the pictures presented. There have been gorgeous pageants, splendid processions, and remarkably vivid glimpses of hunting scenes with that bizarre, romantic and fascinating background of Indian scenery to give them appropriate setting and atmosphere.



NOTES AND COMMENT

Maharajas, elephants, tigers and veiled ladies have flitted across the page and the ordinary newspaper reader is almost as familiar with the appearance of the Diwas-i-Khan at Delhi as St. Paul's from Ludgate Hill.

The intimate and artistic views of the Royal party from the camera of Ernest Brooks have been specially admired. Mr. Brooks occupies the distinguished position of private photographer to the King-Emperor. He uses "Tabloid Rytol" in developing his negatives, and has recently addressed the following letter to Messrs. Burroughs Wellcome & Company, with regard to his chemical requirements:

Government House, Calcutta, Dec. 31, 1911.
Messrs. Burroughs Wellcome & Co.,
Snow Hill, London,

Dear Sirs: I acknowledge with thanks the receipt of your further supplies of "Rytol" Developer and other "Tabloid" photographic chemicals for which I cabled from Aden. I am much obliged to you for the promptitude with which you have executed my order, and with these further supplies in hand, shall be fully equipped for all the photographic work I expect to do. Believe me,

Yours faithfully,

ERNEST BROOKS.

New Cooke Catalogue

We have just received a copy of the new catalogue gotten out by the Taylor-Hobson Company, listing their well-known Cooke anastigmat lenses in the new models. There are also listed two series of a fine European lens to be known as the Cylex, Series A and B. The Series A is a double anastigmat of symmetrical form, while the Series B is a convertible lens offering the advantage of three focal lengths in one mounting. The Catalogue is a handsome one, full of information, and one that should be sent for by all our readers interested in lenses of high quality and the work they produce. It is sent free upon request. Address, The Taylor-Hobson Company, 1135 Broadway, New York.

Flashlight Without Smoke

Home portrait groups, banquets, weddings and the like are all the best kind of subjects for the photographer. They are both desirable and profitable as subjects for the camera. If the photographer could be sure of sufficient light and at the same time avoid the smoke nuisance, the production of successful pictures would be a

very easy matter. Making it an easy matter is very simple with the Victor Portable Flash lamp, a simple piece of apparatus in which the flash is made inside and inverted, translucent bag of ample dimensions. A description of the many advantages and convenient features which are embodied in this piece of apparatus would require more space than we have at our disposal. We have used it ourselves with the greatest satisfaction and would advise every photographer to get a descriptive circular and familiarize himself with its capabilities. Write the makers, James H. Smith & Sons Company, 725 East Thirty-ninth Street, Chicago, Illinois, and ask them to send you particulars and cut showing the lamp.

A Letter From "The Art Shop"

113 South Main St., Wilkesbarre, Pa.,

January 30, 1912.

Bausch & Lomb Optical Co.,

Rochester, N. Y.,

Gentlemen:

It is a pleasure to me to say a word in favor of the Series Ic, 4.5 Zeiss Tessar. The old story about the soap box and spectacle lens, is probably still alive, but if one is bent on doing pictorial work, as the demand stands today, the Series Ic will do more to approach the goal than any lens I know of. In using a 5-inch focus on a 3¼x4¼ Graflex camera it will do wonders if the man behind it can do his part.

Sincerely,

R. S. KAUFFMAN.

An Even Dozen of Defender Offices

Another branch office has been opened by the Defender Photo Supply Company, this time in Los Angeles. The office is conveniently located at 200-209 Broadway Central Building, on South Broadway, and will carry a very complete line of Defender papers, dry plates, and chemicals. Martin L. Wolver is manager of the new branch. He comes to the Defender Company from Burke & James, in Chicago, and has been connected with other well-known photographic concerns. The Los Angeles office is located in a country of wonderful growth and prosperity, and will enable the company to take care of trade in Southern California with greater facility and promptness.

"Cash and the Camera"

At one time or another every amateur has had photographic prints which he felt some

magazine might like to buy. The question has been, "To what publisher shall I send them?" Then, too, there are many little methods whereby a very commonplace subject can be made valuable from the standpoint of an editor. To secure these facts and obtain a list of thirty-five or forty publishers would, ordinarily, be next to impossible for the average photographic worker. But "Cash and the Camera," edited and published by A. S. Dudley, together with his copyrighted list of publishers, gives one information that may provide an outlet for his prints, an opportunity to get back some of the cash that has been invested in materials. The book has just come from the press; and, although the publisher says the price may be raised to either two or three dollars within a month or so, "Cash and the Camera," together with the list of over thirty-five publishers and buyers of photographs, can now be obtained postpaid for one dollar. Address A. S. Dudley, Box 775 A, Philadelphia, Pennsylvania.

New Manager for Philadelphia Branch

A. E. Maris, for twelve years manager of the Philadelphia branch of the Defender Photo Supply Company, has severed his connection with the company in order to enter the retail photographic field. Those who have had business dealings with Mr. Maris trust and believe that he will meet with every possible success in the new venture. He is succeeded in the managership of the Defender Company's Philadelphia office by Samuel J. Sloan, who has been traveling representative in the outlying territory for the past year.

Illinois College of Photography

Moving picture photography will be a featured department of the college the coming year. Up-to-date equipments for film making, printing and projecting, will be installed, and this important branch will be given a prominent place in the curriculum.

Professor Joseph A. Kern, who recently resigned his position in the retouching department, was married last month to Miss Linnie Abbott, a former student, and they will open an up-to-date studio at Crawford, Nebraska.

Joseph Hagans, who has recently finished a course in photography, left last week for his home at Uniontown, Pennsylvania, where he will purchase the Ritenour Studio, which

has acquired a wide reputation through the work of Miss E. A. Ritenour, one of our former students. Miss Ritenour will retire from business for the present.

Mr. Dudley Goes To Philadelphia

A. S. Dudley, who has for several years been connected with the American School of Art and Photography and the American Photographic Text Book Company, for the past two years as manager, has resigned his office to take a more remunerative place in a Philadelphia publishing house. He leaves the city today and bears with him the best wishes of the officers, directors and his fellow workers of the Photographic Text Book Company, with whom he has had most pleasant relations. Mr. Dudley is a man of great ability. The many friends which he made in Scranton are confident that he will be successful in his business operations in the Quaker City.—*Scranton Times*.

Agfa Kapselblitz

Under the above name an extremely convenient and portable form of flashlight is just being introduced by the Agfa Company. The flash powder is contained in a triple tin case about the size of an ordinary walnut. It is sealed with a strip of adhesive plaster, which keeps the contents perfectly dry. On removing the plaster the two constituents of the flash powder, the magnesium powder and the oxidizing chemical, are found separate in the case, the chemical combustant being contained in an inner capsule which forms an additional preventive of the access of damp. The two are simply mixed together by shaking in the outer capsule, when the operator obtains the flash powder ready for use in a perfectly fresh condition. The mixture is ignited by means of a strip of touch paper, a supply of which is contained in each package, and the result is an actinic flash which is highly efficient for flashlight portraiture. We should add that attached to each capsule is a thin strip of soft metal by which the capsule can be attached to any convenient support, and thus readily placed at a height necessary for the exposure. The "Kapsels" are supplied at ten cents each, one dollar per box of ten. They are a most practical addition to the many reliable requisites for flashlight photography which the Agfa Company have prepared and marketed within the last year or two.

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SAN FRANCISCO, CALIFORNIA



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By A. W. RICE

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FAYETTE J. CLUTE, Editor and Proprietor

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SAN FRANCISCO

CALIFORNIA

VOL. XIX

MAY, 1912

No. 5

Correct Methods In Photography

By F. Morris Steadman



With Illustrations by the Author

We need "prodding" occasionally. And yet, he is a sleepy worker indeed who does not, at times, strongly suspect that his lack of control over results is due directly to his disregard of methods which he does not consider worth while, or, which he intends to "some day" take up.

There are thousands of photographers who have worked for years, as amateurs, yet who have never come to a sure knowledge of the appearance of a technically perfect negative. And, by a perfect negative, I mean one that represents, in its own gradation, the natural light gradation of the subject, correct exposure and right development necessarily maintaining.

How many of the readers of this article have ever availed themselves of the simple expedient of securing such a negative from some expert worker, to be used as a guide or standard? With such, every negative one developed could be compared, and one's knowledge thereby increased much more rapidly and to a far greater extent. True, it would be impossible, as well as undesirable, to make all one's negatives of exactly the same quality, because altered conditions and differences in the results required would demand variations; but in the case of a like subject, comparison with a standard negative would permit one to determine the character and degree of failure with much greater certainty. All perfect negatives are not alike, mainly because all pictures do not have the same range of tonal values. But, from the standpoint of the artisan, there is an opacity gradation, combined with a clearness and normality, that characterizes a "perfect negative," a negative such as every photographer should

CAMERA CRAFT

be able to make before pretending to the ability to produce variations in order to secure special tone effects.

Evidence of this lack of knowledge as to the appearance of a good negative is found in the ignorance of so many photographers as to the quality of print any given negative will produce until it has been dried and a print actually made. They are, when this last is done, often greatly surprised to find that the resultant print is so hard, or that it is so flat, as the case may be. The isolated worker, even the professional if he be without some previous training under a good worker, usually has some more or less definite class of negatives that he considers about right, but, in reality, far indeed from the ideal. Photographers of the old albumen days made negatives of the "cast-iron" order, that, with the coming of the softer working papers, are entirely unsuited, and they seem unable to change their standard accordingly. The same condition prevailed during the transition from the wet plate days to those of our present dry plates. The older photographers, accustomed to giving the long exposures demanded by the wet plate, could not bring themselves to cutting down the time sufficiently to produce the best results on the new emulsions. Many of them gave up the business through sheer inability to adapt themselves to the changed condition. It is certainly logical to conclude that the use of a standard, as above advised, would be of great advantage in securing better negatives through enabling the worker to trace the cause of his failures and work towards an ideal that could be continually approached.

Let the reader, in thought, bring all his negatives before him for inspection. What an array of thin, dense, flat, and contrasty specimens! They were probably secured by using a great variety of plates and developers combined with much dark-room devotion, and very likely they are still being produced by the same disregard of method. Is it not time for a word of caution? And please take it kindly. Persist in this chaotic "guesswork" and you will become fixed in prejudice and as incapable of change as the confirmed "cast-iron" negative maker of the old days. Rather, remain flexible and teachable. Ask yourself if there are not workers who can tell almost infallibly just what results will be secured, before the exposure is made.

There are such others, and in plenty. They enjoy the work more fully because they know the buoyancy and inspiration of achieving results through study and understanding. They are not going through their work with their eyes down, stumbling over problems that others have solved long ago. To refuse known means of improving one's work is to voluntarily assign oneself to mediocrity. Perhaps you have some idea that the art quality of your work may suffer if you do not work along original lines. Ignorance is not originality,—forget it. Ignorance of the best practice in the matter of process is entirely too common to recommend itself as of value as a means of developing within one that which is worth while. Exposure, for example, is purely and simply a matter of a definite result following an exact cause, and it is only when one knows how to give the exactly correct exposure that he can modify the cause to produce particular effects. If you should have a clear conception of the manner in which ignorance of correct exposure can enhance the originality of

198

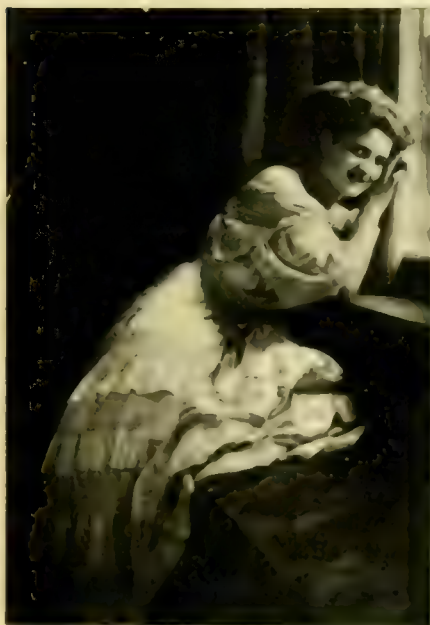
CORRECT METHODS IN PHOTOGRAPHY



A. MEMORY—Tinting time 16 seconds. Subject factor $\frac{1}{2}$. Speed stop U. S. 32. Exposure, 1 second U. S. 4.



MRS. A.—Tinting time 16 seconds. Subject factor 1. Speed stop U. S. 32. Exposure, 2 seconds, U. S. 4.



MISS G.—Tinting time 1 second. Subject factor $\frac{1}{2}$. Speed stop U. S. 32. Exposure, $\frac{1}{2}$ second U. S. 8.



THE LESSON—Tinting time 8 seconds. Subject factor $\frac{1}{2}$. Speed stop U. S. 32. Exposure, $\frac{1}{2}$ second U. S. 4.

CAMERA CRAFT

your pictures, for the sake of progress make it known to the rest of us. The editor will certainly be pleased to give space to such an article.

But to be practical myself in the matter of this article, let me outline a few matters that should interest the "methodless" reader who may desire to improve his work through an appreciation of proper methods therein.

Before exposing, and in portraiture most particularly, the ability to see all the disposition of the light and realize its varied degrees of actinic power, whether from a variety of colors, from varied degrees of light and shade, or both.

Knowing just how much actinic contrast a subject can have without exceeding the capability of the plate or film to record such contrast satisfactorily.

Command of a good exposure method, one that will give exact knowledge as to the correct exposure to produce a normal image by normal development.

Mastery of a time method of development to the end that every negative will, in itself, declare the correctness or otherwise of the exposure given it. This should be done in order that one's practice may quickly perfect one's exposure method. The educational value of a time method of developing is contingent upon the use of a good method of determining exposure. Having one without the other is simply denying one's self a most effective and advanced means of progress.

The employment of a device described in my "Complete Exposure Method and Home Portrait Helps," an "inspection easel." With the easel one examines each negative, after fixation, lying flat where it can be critically examined and quickly reduced or intensified, wholly or in part, at will.

The possession of a perfect negative, a standard by which one may compare each negative made, after fixation, so that the latter may be improved systematically and understandingly. A perfect print from the perfect negative, made on a known grade of paper, will permit one to closely estimate the variations necessary for harder or softer grades of paper.

An appreciation of the importance of correctly timing the exposure of the print. Prints should be so exposed that they will come to complete development in a certain time, usually from twenty to sixty seconds, according to the requirements of the paper being used. So working, the printing of many amateurs would be revolutionized, doing away with their muddy-looking and unsightly prints, mainly due to wrong exposure and "save it anyway" methods of development.

Knowledge of the fact that prints must be kept moving in the fixing bath, in all chemical treatment, and in the washing, to insure even action throughout.

These eight details of practice will prove themselves eight golden rounds in a ladder that will carry to success any photographer who can concentrate upon them sufficiently to acquire a mastery over them. With my daily practice of home portraiture there is but little time left for writing, and, of course, I can take the time more willingly if I know in advance that the articles are really desired. If enough readers of CAMERA CRAFT are sufficiently interested to write the editor to that effect, I will be glad to elaborate, in a series of articles, upon all or a part of the eight steps in photographic practice which I have indicated above.

Some Suggestions On Home Portraiture

By H. L. Maloney



With Illustrations by the Author



A VERY BOY-LIKE LOSE

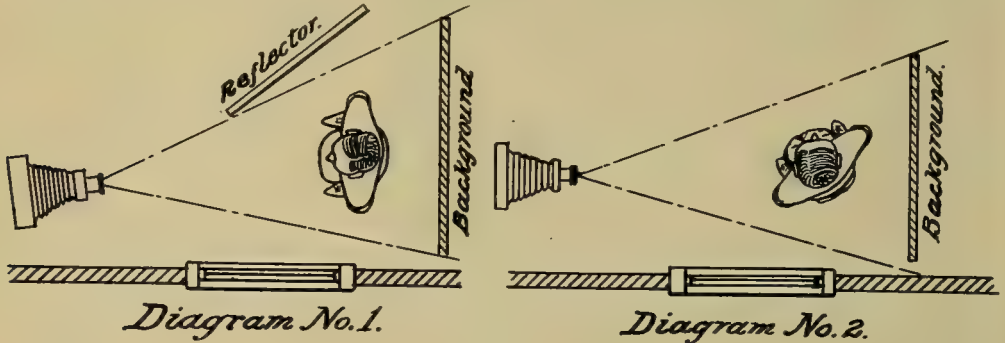
always obtainable at a brief studio engagement; elderly people are rarely inclined to visit a studio. Generally but one member of a family visits the photographer's studio at a time, but when the operator goes to the home he can take several members, perhaps the entire family, in a group that will appeal to them all. Nearly everyone appreciates a picture that includes a part of their favorite room or some cozy corner occupied by a favorite seat. Some will want a firelight effect by the fireplace; others will be pleased with a

OME portraiture, I believe, is destined to be the portraiture of the future. The portrait studios will gradually disappear, to be replaced by workrooms in less expensive locations, workrooms from which will be sent out operators in automobiles, supplied with the necessary apparatus and skill for making all kinds of portraits at the residence of the customer. These operators will employ daylight, flashlight, electric light or even the effective mercury vapor light. The necessary reflectors and backgrounds will also be carried. Home portrait work will broaden the photographer's field of usefulness and increase his business by reason of the greater variety of work to be done. Ladies frequently desire to be photographed in several different gowns; children's portraits are desired in a wide variety of poses, not

CAMERA CRAFT

picture that includes a favorite dog or cat, something that they would not think of getting at a portrait studio. The visiting operator will also locate many orders for copies and enlargements, orders that would be a long time in finding their way to the photographer's regular place of business.

Making home portraits is not difficult for either the professional or the amateur, but a few suggestions will be of value to one who has never undertaken the work. Flashlight will be found most generally desirable, but it should not be used when daylight will answer the purpose. Ordinary window lighting is no doubt the best when bust portraits are to be made. Three-quarter and full-length portraits should be left alone until one has had some experience with bust pictures. For these last place the sitter opposite the window casing furthest from the camera, so that the face receives nearly all of the available light, the face being about twelve inches from the window casing on that side. Then place a white muslin reflector opposite the window and at such an angle as you would place a mirror to reflect light upon the face. The camera, on the opposite side of the window, should be kept as near



the wall as possible. The diagram, No. 1, herewith will show very clearly the arrangement for this most simple and generally satisfactory lighting. As one gains confidence with this, other and more complicated arrangements can be tried, and with better chances of success.

This arrangement allows of the shortest possible exposure, because the best available light is employed. With this light and a wide open lens quite rapid exposures can be made. The focus should be on the eyes, as they are the most important part of a portrait. The eyes should also be given all attention before the exposure is made. Many sitters raise their eyes so high that the white shows below the iris; others roll their eyes to one side or the other, some doing this while the exposure is being made, if not cautioned to look at some given object in the desired direction. Some sitters hold their chins too low, giving the impression that the head is about to slip from the shoulders. When focusing the chin should be about the center of the ground glass, the head about one and five-eighths inches long. This will give a good size for a cabinet picture. The fastest plates should be used, and, with a rapid rectilinear lens, the exposures will be about one and two seconds.

If the wall back of the sitter is too obtrusive through a strong design in the wall covering, a background can be improvised from a pair of portieres, a piano cover, upholstering cloth, even the center of an ordinary blanket can

SOME SUGGESTIONS ON HOME PORTRAITURE



SOME EXAMPLES OF OUT-DOOR PORTRAITS

be pressed into service. A wide window shade is excellent, a green one giving a fine dark background. Again, a good portable ground can be made by taking a piece of muslin of the desired size, soaking it in water, stretching it on a frame or on the side of a shed or fence with a few tacks, and then spraying it with color. A spray pump, such as is sold to poultry raisers for fifty cents, is just the thing. Fill the reservoir with a thin distemper of any color, or of dead black Japalac, and spray the muslin while still damp. If the spray does not work nicely it is because the color is too thick. Thin it out with turpentine and go over the muslin two or three times. A ground so made can be soaked in water without harm.

If the background is tacked to a stick or roller, a good way to support it in position is to drive a tack into the picture molding on opposite sides of the room, stretching a strong cord between, and, with a couple of pieces of string, hang the two ends of the stick to this cord. Where the whole figure is included, any easy chair or rocker is suitable, but in a bust portrait care



CAMERA CRAFT

should be taken to see that the back of the chair does not show. A piano stool should be avoided because the sitter is almost certain to swing about enough to get the face out of focus. A good posing chair can be quickly put together by tacking a piece of board to the bottom of a grocery box to form a support for the shoulders. The seat being small the sitter will naturally assume a more erect position, the support for the shoulders will not show in the picture, and being light and handy it is easily moved about. When a rocking chair is used, one of the rockers should be braced with something so that there will be no movement during exposure.

When making portraits by flashlight, first place the sitter where wanted, then place the camera at the proper distance and focus roughly; next prepare the flash ready to fire, and lastly pose the sitter, do the final focusing and make the exposure. Working in that way the sitter is not tired by having to hold a set pose for too long a time. As the amount of powder depends upon the distance between the flash and the sitter, and the flash should be further from the sitter than the camera, the location of the camera comes first. Size of stop, color of walls and speed of plate also influences the amount of powder necessary. Using f-8, room with light walls, fast plate but not the most rapid, and with flash eight feet from the sitter, twenty-five grains of powder will be found about right. Dark or red walls will require double the amount of powder, as will the use of a size smaller stop. For firelight effects use only half the amount of powder because a contrasty effect is what is wanted. These are made by firing a flash in the fireplace, the flash so arranged that the light will strike the sitter but not the lens.

It would require too much space to describe the method of making even the standard lightings used in portraiture. A good plan is to select a number of portraits from the family collection, or even those constantly appearing in the magazines, and then get some accommodating friend to pose near a window while one tries to duplicate the effects, using a reflector to brighten the shadow



SOME EXAMPLES OF FLASHLIGHT WORK

SOME SUGGESTIONS ON HOME PORTRAITURE

side when necessary. One will not only learn to make the lighting used in the pictures, but other lightings will present themselves while doing so. A very pretty lighting suitable for sitters with good profiles is made as follows: Place the sitter close to the window, seated sideways, with camera placed as if for a front-view bust picture. Then have sitter turn body away from the window until a three-quarter view is presented to the camera; and, holding the body in that position, turn the head still further until the light just disappears from the nose, the nose being as near the light as possible without any direct light from the window reaching it. This will give, in the picture, a side view or profile of the face and a three-quarter view of the body. Bring up the reflector close enough to blend the shadows with the highlights, and one has what is called a half shadow lighting—one that is very effective in the case of a good profile and one that is not often met with in regular work. Diagram No. 2 shows just how this lighting is made, and the portrait here- with shows a fair example of the results, although no reflector was found necessary in this particular case. This lighting is particularly well suited to white drapery.



A HALF SHADOW LIGHTING

The usual advice is to not develop portrait negatives too far, but within the last few years we have been provided with extremely rapid plates that do not give density as readily as do ordinary fast ones, and care should be taken to develop such plates far enough to get sufficient density. The developer for a portrait negative should be only half as strong as a developer used for view negatives. It is well, when doing home portrait work, to slightly retouch the best negatives before showing proofs. If the work is only done for pleasure the amateur can use more front light on the face and thus minimizing the lines due to wrinkles. Retouching is not hard to learn if one will but realize that it takes hours of practice with frequent making of a proof to see what effect has been produced. When one takes a negative to a retoucher he can express a wish to see how the work is done, and, in most cases, permission will be cheerfully granted. I spent twenty-four hours working under expert instruc-



THE YOUNG CARD PLAYERS.

tion before I could see any progress, but after that my work improved rapidly. By using a strong light behind the negative and diffusing it with tissue paper, one can practice at night, and the work is very interesting.

Use the best HHHH pencils, sharpen them so that about an inch of lead is exposed and give this lead as fine a point as can be obtained. The final pointing should be done on a very fine piece of sandpaper and the point renewed constantly by rubbing on a bit of the sandpaper glued to a small, flat piece of wood. Before starting to do retouching the negative should be flowed with a retouching varnish. A good one is made by dissolving twenty-five grains of gum mastic in one ounce of sulphuric ether, lastly adding seven ounces of gasoline. Allow to stand over night and it is ready for use. It will keep for a year or more, but does not work as well when old. After working on a negative for a while, some portions may become smooth and refuse to take the lead. The negative can be revarnished to overcome this, even the third application can be made, and without disturbing the work already done. If results are not satisfactory, a tuft of cotton moistened in gasoline will remove the lead and varnish, and, after revarnishing, new work can be applied. An etching tool will also be required. They can be obtained at the stock house and a retoucher will show you how it is used.

One has to look and study to see beauty. It takes two to make a beautiful object; the eye of the beholder is as indispensable as the hand of the artist. The artist does his work—the beholder must do his. Art, in short, is entirely a matter of reciprocity; the kind of beauty that jumps at you is the kind that you end by tiring of, and, therefore, it isn't real beauty at all; only an approximation to beauty.—HARLAND.

Photographing the Chinese

By Louis J. Stellan



Illustrated by the Author



FLAGS OF NEW CHINA

IF ALL the picturesque peoples that dwell in Uncle Sam's domain there are none more enticing to the camera-ist than the Chinese. Even the North American Indian, in his primitive setting, his surroundings of natural grandeur and his weird ceremonies, is not so attractive a subject to the "genre" photographer as the denizen of San Francisco's famous "Chinatown."

In the first place, Chinatown is not so hard to get at as the desert fastnesses of the aborigine; in the second, "John Chinaman" presents a greater variety of pictorial charm in his biggest American colony, and, in the third place, the moving pageant of fascinating groups and scenes and figures is constant, unremitting and confined to no season of the year.

One has only to equip oneself with a fast lens, a camera adapted to sudden emergency and a supply of plates or film. Thus armed, one may stand on any of the half dozen busier corners of San Francisco's Celestial colony and add to one's collection, in an hour or two, at least a dozen pictures that will rank with any taken overseas for unique and novel charm.

There are, however, two serious obstacles to be overcome in the work of successfully photographing the Chinese "in his lair." One of these is the too-soft light which narrow streets and more or less transmitted illumination produce. Another is the inherent and superstitious objection of the Celestial, young or old, to being photographed.

CAMERA CRAFT

The first obstacle is, perhaps, the more serious of the two, since one cannot widen the streets to secure more direct lighting nor secure the same effect by photographing the Mongolian when he emerges from Chinatown to wider and brighter thoroughfares. He needs the setting of his gloomy little channels of pedestrian traffic, with the background of quaint, semi-Oriental architecture.

I call this obstacle the more serious of the two because my experience as a newspaper photographer has accustomed me to photographing people who objected to the operation. Whether the objection be due to pagan superstition or other motives is of no consequence.

So I found, when I first began to photograph the Chinese, that though patience and quick action at the psychological moment would give me a sharp and well-composed picture, I could not get enough of that very essential quality called "snap" in my negatives. The green, brown and yellow buildings filtered most of the actinic quality out of the light by the time it reached the street and, somehow, took the contrast out of things.

Do not misunderstand me. I am not one of those "old school" fanatics who demand microscopic detail and absolutely black and white prints at the expense of true pictorial value. I like plenty of half-tone and believe that there must be in each real picture the magical something which suggests things one cannot see. Perhaps I do not carry it as far as some of the more enthusiastic of Photo-Secessionists, because I have to satisfy magazine and newspaper editors. But I demand "atmosphere," and for a long time it bothered me to get it without losing purely photographic excellence.



A FUNERAL PROCESSION
208



OUT FOR A STROLL

PHOTOGRAPHING THE CHINESE



THE SIDEWALK COBBLER

THE LETTER WRITER

My work in Chinatown brought the problem to a crucial stage. After I had sent some of my best enlargements (for I cannot abide a contact print) to Eastern publishers, only to have them returned with a request for "clearer prints," I began to see that the solution of this difficulty was beyond my province. Bromide in the developer wouldn't do the work, because there was no chance to overtime or even normally time my pictures. Making a print on Velox and recopying it destroyed my half-tones. I thought it over very carefully and deliberately one night with the aid of a good pipe and came to the inevitable conclusion that the fault was the lens manufacturer's.

Nor was it a fault so much as an inadaptation, for my lens gave good results under ordinary circumstances, and its speed seemed great enough for most conditions under which I had to work. Nevertheless, I knew there was a difference in lenses, so I gathered a sheaf of catalogues from my stock dealer and studied them for an evening.

These researches, however, availed me little. Half a dozen or more makers of high grade lenses, approximating the same price, claimed, each for his product, superior and nearly similar advantages. Some of them used fewer glasses and stated that this gave greater speed. Some asserted that the many separate lenses joined in their combination afforded benefits obtainable in no other way. Some sang the praises of cement, others of air-spaces. As a result I was more at sea than ever.

A consultation with a friendly dealer brought a little order out of chaos. "Why not try out different makes for a week or so?" he suggested. "We'll let you have them on trial and then you can pick out the one you like best, provided you find it an improvement over your present equipment."

CAMERA CRAFT

I thanked him and started out. The first was an imported lens. I found the new one so nearly like my own that the difference was scarcely perceptible. I tried a third, then took out one from another foreign country. This, to my joy, I found to give better contrast, but, to my simultaneous chagrin, I found it lacking in speed. In fact, this same difficulty recurred in nearly all of my trials.

With a lens working at f-6.8 I could get crisper negatives, but they were too greatly undertimed to make them worth while. Even the f-5.6 speed was too slow. I was about to return to my original equipment when I met a lens demonstrator whom I had known years ago and lost track of. I confided my troubles to him.

"Have you ever tried our Zeiss-Tessar?" he asked.

I replied that I had eliminated it from the list of promising possibilities because it had not the desired speed, working at f-6.3.

He looked at me in perplexity.

"Why, you must have an old catalogue," he said. "We have been putting out an f-4.5 Tessar for several years. Come over to the office and I'll let you have one to try."

I demurred. "Oh, what's the use?" I said. "I guess my lens is as good as any of them. Some of you folks ought to get busy and make a decent fast lens. As it is now, you can't get a fast one with any depth of focus or crispness and the slower ones haven't sufficient illumination. I've tried them all."

"You talk like a lot of other people I know," said my friend, "and, in the main, you're right. But try a $3\frac{1}{4}\times 4\frac{1}{4}$. That will give you greater depth on account of the short focus, and speed a-plenty. And, if you're after snap in your negative, that's exactly what the Zeiss-Tessar excels in."

He dragged me, still protesting, to his office. I had no faith in his declarations, because I had been disappointed so many times that skepticism had become a habit. Even when he showed me an unusually brilliant image on a ground glass, I remained obdurate. "Oh, yes, it looks all right here," I admitted. "But it's different when you have to develop it out of a plate that's more or less undertimed."

The demonstrator laughed. "Well, I might talk all day and not convince you," he said, "but this lens will. Take it along and try it out."

That was the beginning of the end of my troubles. I fitted the lens to a $3\frac{1}{4}\times 4\frac{1}{4}$ Graflex that I had at home and started out that same afternoon to try conclusions. I rather looked forward to the melancholy satisfaction of taking some thin, flat negatives up to my friend the next day and saying: "Here's your bum anastigmat. It's just like the rest of them, durn you!"

But that maudlin pleasure was never afforded me. The lens did not go back. As I said, that same afternoon saw me in Chinatown with the new lens, despite the fact that it was after three o'clock and the winter sunshine none too strong at its zenith. I stood on the lightest corner I could find and waited. For a time no scene worthy of depiction presented itself, so I got restless and started to walk. In one of the narrower alleys stood a jolly, fat merchant in front of his shop. He looked at me and grinned. "You takee my picture?"

PHOTOGRAPHING THE CHINESE



ON FISH ALLEY

THE MONGOL

"BUSINESS HEAP GOOD"

It was such an unusual request that I stopped, astonished. An awning covered the sidewalk in front of the little store and the actinic possibilities seemed bad. Nevertheless I squinted in the hood and was surprised to note a fairly brilliant image.

"Well, just for luck," I said to myself and gave him a twenty-fifth of a second.

On I passed, back to my original corner, when suddenly, out of a door half way up the intersecting block came three of the prettiest, daintiest and most gorgeously dressed Chinese children I had ever seen. I stepped behind a pole, pulled out my slide and waited their nearer approach, approximating the focus. When they came within my focal zone, tripping along quite rapidly, I stepped out and snapped them. Immediately they broke and ran, but I felt



THE MASCULINE

SHOPPING

THE FEMININE



THREE LITTLE MAIDS

A BIT OF GOSSIP

sure I had them. I remembered the pretty composition they had made on the ground glass just as I pressed the button, but when I noted that the time was nearly four, it seemed like a small chance that I'd get a satisfactory negative. And, while I was debating this with myself, a car stopped right in front of me and a "bound foot" woman limped timidly off and hobbled her way to the curb. It was one chance in a thousand, for these high-caste ladies seldom show themselves on the street by day. At any rate, I accomplished another rapid-fire exposure and decided to call it a day.

As soon as I reached home, I sought the dark-room and got busy with my exposed films. They came up a bit slow and I was just about resigned to another bad day's work, when the image jumped up suddenly and I saw that I was going to have three prizes if I nursed them a little.

To make a long story short, I got a trio of almost perfect negatives as a result of my afternoon's work. There wasn't anything miraculous about it, though it seemed so to me that afternoon. Some poet-philosopher has said:

"The little more and how much 'tis;

The little less and what world's away!"

Thus it was with my new lens—for by this time I had determined to own it; I had merely found a lens with a trifle more speed and snap than my other one—not overwhelmingly nor extraordinarily better than the old one. But that slight difference was just the difference I had sought for so diligently and vainly; it gave me that final touch required to make good pictures where previously I had been able to get only near-good and utterly unsatisfactory pictures under the trying conditions Chinatown imposed.

With lenses it is much the same. Years ago the single, meniscus lens, working at from f-12 to f-16, was the best that could be had for love or money. And then came the double combination, or rapid rectilinear. It was a little better than the single lens, because it was slightly faster and just as good otherwise. So it drove the meniscus practically out of the market and reigned supreme for a long time. Then some one invented the anastigmat. It was a little faster than the rapid rectilinear and possessed greater optical correction,



A LILY MERCHANT'S STAND ON DUPONT STREET

so people who were particular discarded their old astigmatic combinations for the new style lens, paying a considerable price for the slight superiority.

And now there are on the market a dozen first-class anastigmats of varying speeds. Between them there is so little difference that the novice could hardly distinguish it. But, as in my case it was shown, one may work a little more brilliantly and rapidly than any of the others in your hands. If you have all the light you want, perhaps you may never feel the need of it. But if you take pictures in a weak or too-soft light pretty regularly, the slight advantage which I have described is worth everything in the world to you. At least that is how I have found it; and to prove it, I have the best collection of Chinatown pictures that has been taken since the big fire of 1906, which totally destroyed the Chinese quarter of San Francisco.

How Success May Be Won

Howard Pyle, the famous artist, writing a chapter of his autobiography in the *April Woman's Home Companion*, says:

"He who would succeed must arm himself with three vital and most necessary weapons. First, he must have ceaseless industry; second, he must have limitless ambition of purpose; third, he must possess unquenchable enthusiasm, coupled with a determination to succeed. Given these three, and something else beside—the gift of imagination—and it matters not, I believe, whether the life of a man begins in a cobbler's shop or a grocery store, or whether it begins in such an illuminating joyfulness in beautiful things as that which brightened my early childhood. With any beginning, success will, of a surety, be his who makes himself truly deserving of it."



LOWERING SKIES AND BROODING SEA

By RICHARD Q. ROEMER

What Lenses Are Best

Years ago a young photographer, later one of the leading professionals in California, and one who has since passed over the Great Divide, was just starting out in business. As in duty bound, he made a special trip to his stock house for a selection of lenses, returning with three, all of the size then known as " $\frac{1}{4}$," and each of which he had carefully marked, as he purchased them, "Portrait," "Copying," and "View." Long years afterwards an old photographer called his attention to the seriatum numbers on the tubes of his prizes, numbers reading something like this: 9171, 9172, 9173; adding, "And they look very much like those making up a set of four, all set in one front board for making four portraits at once, that I got on trial from so-and-so in 1861." A little investigation, with the assistance of their united experience, and the whole matter was cleared up. It was simply a case of selling three lenses instead of one, the young fellow knowing no better,—and the salesman knowing it. Tell us, is the situation so very different today? Take the average catalogue and the figures, symbols, descriptive phrases, all fail to show any great difference. Either the makers are afraid to say that a particular lens is not suited to some particular class of work, or else there is a strange misapprehension of the true state of affairs in the mind of,—“Old Forty.”

Ornamental art, pure and simple, is like the measure and rhythm of a verse. A verse may scan, may have a proper accent and cadence. In short, may have all the music of harmonious versification, and yet be made up of words that are mere nonsense; and so in ornament, it is not necessary to its beauty, as ornament, that it should have any meaning. It is quite sufficient that it should be beautiful.—F. W. MOODY.

The Dufay Diopochrome Plate

By H. E. Blackburn



According to the Young-Helmholtz theory, there are only three kinds of light-sensitive nerve fibrils in the eye, each kind serving as the means of communicating to the brain one of the three primary color sensations. Excited separately, each nerve conveys to the brain its own particular color sensation, be it red, green, or blue. If three nerves, one of each kind, be excited simultaneously and to the same degree, the sensation is of white. If all three nerves are at rest, the sensation is of black.

To illustrate: If we draw a very fine red line upon a glass plate carrying a gelatine emulsion, as would be the case with a screen plate, the nerve sensitive to red would carry a red sensation to the brain. A second line, this time green, drawn close to the first red line, would affect the green-sensitive nerve, giving the green sensation. A third line, blue, again close to the last, and a mosaic screen is formed, the blue nerve acting. If, however, all three colors be of the right shade and equal in nerve-exciting intensity, the sensation of white would be created.

This is the foundation on which is based all ruled and grained screen plates, be they Thames, Krayn, Joly, Omnicolor, Autochrome or Diopochrome. The



ON THE YONGHIGHENY RIVER

By NELSON McKENNA
215

CAMERA CRAFT

latter, the subject of this article, is a screen, or mosaic made up of squares or triangular rulings and spaces, so small that a magnifying glass is required to distinguish individual elements.

If this ruled or otherwise colored screen is coated with a transparent, water-proof varnish, and then a panchromatic emulsion placed over it, the screen plate color plate of the plate makers is produced. As this plate is exposed in the camera with the screen or glass slide towards the lens, it is evident that light from each color in the subject must pass through their selective colored dots or spaces and result in more or less opaque spots in the negative when developed. In an area of red in the subject, the red spots of the screen below the negative film will be hidden by opaque spots in the developed negative, allowing the blue and green spots to show. To make the color come right as the plate is looked through with the eye, the negative must be redeveloped by a reversal process. This results in the opaque spots being made transparent while the clear glass spots adjoining are made opaque. On again looking through the plate, the red dots of the screen are apparent, while the blue and green dots are obscured, as a result of the reversal of the negative image into a positive one.

These grain screen plates are expensive, it is true, but the simplicity with which they can be worked is somewhat of a compensation. The principal fault with most beginners is their failure to appreciate the high sensitiveness of plates coated with a panchromatic emulsion, an emulsion particularly sensitive to light having practically no effect upon an ordinary plate. A lens without a hood or well-extended mount, a bellows so narrow that it catches too much of the light from the lens, or any such effect of light, will slightly veil the plate, producing a bluish fog in the resultant plate. A subject containing much white or much blue sky will have a like effect; in fact, the user of screen plates should avoid all subjects containing more than a small proportion of either black or white, or colors of strong actinic contact. This is no great hardship for the reason that black and white have little place in a color composition. It is needless to say that a camera bellows that leaks light, even in the smallest degree, is unfit for screen plate work.

Receiving my first two boxes of Dioptochrome plates and a yellow compensating screen to be used with them, from the American agents, George Murphy, Incorporated, New York, I was surprised at the simplicity of the instructions accompanying them. But the high price of the plates told me I had best employ some care in determining correct exposure. The directions call for the following, using a lens at f-8:

Open seascape, summer.....	½ second
Wooded landscape, summer.....	4 to 10 seconds
Studio lighting, summer.....	10 to 30 seconds
Sunsets, sun just above horizon, summer.....	4 seconds
Sunsets, sun just below horizon, summer.....	25 seconds

The table also shows exposures for winter months, these being just ten times the exposures given for summer. Cloudy days were cautioned against, and also winter sunshine, which is quite yellow on a bright day,—afternoon light on a bright gray day being better.

THE DUFAY DIOPHOCROME PLATE



ON THE PLATTE RIVER

By H. CROSBY FERRIS

But first I removed the ground glass from my camera and turned it around, ground side out, to correspond with the reversed position of the plate in the holder. Next the compensating screen was placed on the lens, as one must always focus with it in position. I decided that I would waste one plate in determining the exposure, so I carefully loaded it into the holder in total darkness, the film side in against a sheet of black cardboard, touching only the edge, and taking care to wipe off the glass side, which faced forward, before inserting the slide, ready for exposure.

Having decided on a good color subject, a still life composition under a skylight, a subject minus white or black, I took a piece of newspaper and crumpled it up into a ball, popcorn fashion, and placed it near the subject. Focusing on this through the yellow screen, I closed down the iris diaphragm until I could just see the paper ball on the focusing screen. Looking at the lens, I found it was stopped down to $f-32$. According to the directions, with bright reflected sunlight, I judged that thirty seconds was about right for studio lighting in winter, using stop $f-8$, and determined to give that exposure. However, I made a notation: "Meter stop $f-32$ equals thirty seconds at $f-8$," as $f-32$ was the stop with which I could just see the paper ball.

The camera used had a well-hooded lens and a wide bellows that could not catch and reflect any light onto the plate. After first rubbing the slide well in order to electrify it and draw off any dust from the glass surface of the plate, it was withdrawn and the thirty seconds exposure made with stop $f-8$. Upon development I found that the exposure had been hit exactly.

With my notation as to meter stop it is always easy for me to determine correct exposure. I simply stop down until the paper ball is just visible and

CAMERA CRAFT

then reduce that stop value to the equivalent at f-8 or whatever stop is used, working on the basis of the just visible ball at f-32 being equal to thirty seconds at f-8. In other words, the square of eight being sixty-four, and that meaning thirty seconds, it is safe to assume that the square of the stop that leaves the ball just visible, divided by thirty-four, gives the exposure at f-8. The exposure for f-8 determined, it is easy to determine the exposure for any given stop therefrom. And there is only one place, I find, to determine the correct exposure for color work, and that is where the picture is projected on the plate, or where the image reaches the ground glass, and the test image must be a white or gray set subject. A piece of newspaper is always at hand.

The exposure correctly timed, any good developer will answer. With incorrect exposure, one's pet developer or system of using it will not avail to produce a satisfactory result. The reason for this is, the emulsion, in order to insure complete and correct reversal, must be coated somewhat thinner than on ordinary plates. The makers advise a green light for the dark-room lantern, but I cannot see why any light should be used in developing, at least for the first minute; after which it can be flashed before the ruby light if one must look at it through force of habit. Metol-hydro-ammonia is recommended by the makers and they may have some reason for their choice; but for simplicity and good results I prefer Rodinal, used two ounces of the developer to eight ounces of water. This was also advised by Doctor Powers for autochromes, not long ago, in these pages. Two or three minutes should complete development if the exposure be correct. Then pour off and wash for one minute in running water, after which immerse in:

Potassium bichromate	75 grains
Sulphuric acid	170 drops
Water	35 ounces

This is the reversing solution and the tray should be held near a well-lighted window, not sunlight, so that the direct light falls upon it. When the reduced silver is fixed out, which should not require more than two minutes, pour off the bath and wash plate in water until the yellow stain disappears. The plate should be handled only by the edges in all the operations.

When clear, redevelop or blacken the reversed and bleached image with the original developer, this requiring about five minutes. Next wash in running water for not over five minutes, rack away to dry, after which it should be given a coating of good negative varnish. If it is to be used as a positive to be viewed in the hand, put on a cover glass next to the film and bind together with lantern-slide tape. It is well to interpose a mat, cut from paper that is not too thin, in order to minimize danger of rubbing or of condensation of moisture. While it is useless to try doctoring a plate wrongly exposed, the following hints may help one to locate any trouble.

White spots are caused by not cleaning off the glass side of the plates before exposure or by neglecting to rub the slide, as described, before withdrawing it. Gray fog is caused by under-exposure or by incomplete reversal. Blue fog is caused by over-exposure or by reflected white light reaching the plate during exposure. Under-exposure causes a dull, buried appearance of

THE DUFAY DIOPHOCHROME PLATE



A PRIZE WINNER

By M. F. JUKES

the image, while over-exposure results in a thin image; these being the reverse of the behavior of ordinary plates, owing to the reversal of the image.

To produce prints on paper, in colors, from screen plate positives, is not at all difficult; pinatype, three-color carbon, and other processes being available. The main difficulty is to avoid the structural texture inherent in the screen plate and also the somewhat violent contrasts. Three negatives are first made successively in an enlarging camera, through red, blue and green filters in turn, using as large a stop as possible to minimize the grain of the screen plate positive. These must be developed to secure detail without too much contrast, or the grain will be in evidence. The first step is to thoroughly fix out six unexposed ordinary plates, in hypo, well wash and dry free from dust. Two of these are dyed, for two hours, rocking the tray occasionally, in the following bath after it has been allowed to cool:

Hoechst Filter Red No. 1.....	1 gramme
Hot water	100 cubic centimeters

Two are to be dyed in the same manner in:

Hoechst Filter Green No. 1.....	3 grammes
Hot water	100 cubic centimeters

The remaining two are dyed for half an hour in:

Hoechst Crystal Violet.....	2 grammes
Acetic acid	1 cubic centimeter
Hot water	100 cubic centimeters

After drying, each pair is bound up, film to film, to produce the three printing filters. These are placed, in turn, over the screen plate positive in making the three negatives in the enlarging camera, using a panchromatic plate with the

red filter, an ortho plate with the green, and an ordinary plate with the blue filter. This gives, from the screen positive, three color-selective negatives for the printing process being used.

There is also a direct process on the market under the name of Uto paper. It is composed of a series of leuco-analine bases, themselves colorless, but capable of producing vivid and pure colors on exposure to light under color complimentary to themselves. For this paper a developed but unreversed. Diopochrome negative is required for a positive in colors on paper. Personally, I have not worked the paper, but would suppose that the strong light required for the printing would be detrimental to the color mosaic of the grain screen negative.

I have neglected to say that for those who prefer their grain screen positive in the form of a film for two days rather than on glass, soaking the plate in xytol will permit of both positive and grain screen being stripped together.

STEREOSCOPIC DEPARTMENT

A Certain Stereoscopic Worker

By James B. Wagner



The editorial in the March issue, "The Worker Who Succeeds," encourages me to relate, for the benefit of others, a true story of a certain stereoscopic worker who lived next door to me in another city some years ago. He was a man well past middle age when he became my neighbor, but, becoming acquainted, he displayed a friendly interest in my photographic work. His own collection of photographs consisted of the ordinary portrait album of the times and a series of stereoscopic slides. These last took on a new interest as he picked up a little photographic knowledge from watching me work, and he expressed a strong desire to produce like prints. His thrifty ways prevented his running off and buying a camera and I was only too glad to present him with an old-fashioned 5x8 camera with square bellows, a relic of my beginner days. And with that he went to work.

And my friend was not hampered by any traditions; neither was he so full of formulas and assorted information that he failed to use his good common sense. I explained the need of a septum through the center of the bellows, dividing the interior into two parts; together with the necessity of a lens for each division. A very cheap pair of single lenses would answer his purpose just as well as expensive lenses, for the reason that stereoscopic work required, as a rule, a fair amount of stopping down. I could not dispute this logic, so

A CERTAIN STEREOSCOPIC WORKER

they were bought. 5x8 plates were not always obtainable, so he spent a little time in so fitting his holders that 5x7 plates could be used as well. This was done by fastening a strip of thin wood, half an inch wide, inside one end of the holder and a sliding strip of the same width at the other, both fitted with a thin metal rim to hold the plate inward and prevent it dropping out. His first exposures were on some still life subjects, which, owing to their nearness, seemed somewhat distorted. I explained that in reality the lenses should be nearer together than the standard three inches for very near views and further apart than the standard for distant ones. This being clear to him, he proceeded to fit the wide front of the 5x8 camera with two sliding panels so that the lenses could be given a separation varying between two and almost five inches, yet always equidistant from the center of the lens board. His shutter, I might add, was simply a black curtain, the width of the front, the lower end carrying a stick with a handle on the right-hand side and the upper end tacked along the top of the camera front. Exposures were made by the simple expedient of raising this curtain by means of the handle and allowing it to fall back into place. It was surprising how quickly this could be done and how much could be accomplished with it in the way of giving the foreground longer exposure than the sky.

And everything else about his photographic practice was equally as simple. He bought the kind of plates that I advised at the time, and stuck to them, even after I had made several changes. The same with his developing formula. Always using the same plate and the same developer, and never having used any other, he could tell the moment a plate started to come up in the tray whether it had been over, under, or correctly exposed, and if either of the first two, to just what extent. Referring to his record of exposures, he determined, in his own mind, just what had caused the error of judgment at the time the exposure was made,—and a valuable lesson was learned. His



MINNEHAHA GLEN

By A. T. HUDELSON

CAMERA CRAFT

method of timing his exposures was practically perfect. Putting his head under the focusing cloth until his eyes became accustomed to the dim light, he capped one lens, then put in stop after stop in the other until he could just see the desired detail in the deepest shadows. With this stop he had determined that the exposure was a certain definite time, and all that was necessary was to multiply or divide that time according to the smaller or larger stop that might actually be employed in making the exposure.

Just about that time I happened to be working carbon tissue, and as the quality of the prints appealed to him, he adopted it as his printing process, continuing with it as long as I knew him. The only real experiment I ever knew him to make was the transferring of his carbon prints to sheet celluloid, ground on one side, and cut stereo mount size, instead of putting them down on paper to be mounted later. This, of course, was a great improvement, much as a stereo transparency is an improvement over the usual kind.

But what I want to get at is this: My friend, knowing nothing of photography further than the one camera, the one plate, one developer, one printing process, and one branch of the art, was, inside of the time it takes the average beginner to produce fair prints with a hand camera, making the best stereoscopic slides it has ever been my good fortune to see, and I have seen a good many because I have since done considerable stereo work myself and exchanged with workers in this and other countries. They were simply perfect. They were well selected, none of them had to be accompanied with an excuse that the light was poor or the shutter too slow; they were all fully timed, all rightly developed as a matter of course, and the prints were beauties, as any one acquainted with the results of carbon and good negatives can believe. I am only sorry that I have not some samples to be reproduced with this article. And above all, bear in mind that the outfit, a second-hand, obsolete 5x8 camera and a pair of cheap single lenses, could no doubt be duplicated for ten dollars or less.



PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—

THE EDITOR.

A PICTORIAL BAROMETER: I have presented a number of my friends with some most interesting photographs, ones that apparently have more value in their eyes than my previous offerings. I take a small bromide print of a landscape subject and harden it in a ten per cent formaline bath. I next swell ninety grains of gelatine in a little water, add enough water to make about four ounces, and dissolve by gentle heat. Lastly, thirty grains of cobalt chloride and twenty drops of glycerine are added. This solution is carefully brushed over the sky portion of the print, a neat frame completing the proposed gift. In fine weather the sky becomes blue and in damp weather pink. This is due to the well-known action of moisture on the cobalt chloride.—A. T. W., Minnesota.

GLOSSING BROMIDE PRINTS: The following formula will give a paste for glossing bromide prints that will add greatly to their appearance where it is desired to retain the brilliancy seen in the wet print in preference to the more dead appearance of the dried picture.

Pure white wax.....	500 grains
Gum elemi	10 grains
•Benzole	4 drachms
Essence of lavender.....	6 drachms
Oil of spike.....	1 drachm

The wax and elemi are melted together and then the benzole and other constituents are added, stirring frequently as the mixture cools. Take a tuft of cotton and smear a little over the face of the print and polish off with a clean, large pad of the same material.—B. G. T., Massachusetts.

LINE DRAWING EFFECTS: I have recently been making some very interesting prints having all the characteristics of line drawings, using a method that I think will interest other readers of our favorite magazine. I take spoiled negatives and clean off the film, then coating them with negative varnish in which some red dye has been dissolved. This is placed over a photograph or other picture that it is desired to copy roughly, often a drawing that I have myself made, and the desired lines scratched through the red varnish with a sharp-pointed tool. My own etching instrument is the point of a steel hat pin

CAMERA CRAFT

broken off and mounted in a bit of wood for a handle. The slightest amount of practice enables one to make clean, even lines following the desired direction. These "negatives," printed on gaslight or bromide paper, are very effective if well etched.—F. L. B., Indiana.

WATERPROOF INK FOR BOTTLES: By making up a solution of shellac in water and alcohol and adding the color desired, one can produce an excellent ink for labeling bottles for the dark-room. A good formula is as follows:

Brown shellac	50 parts
Wood alcohol	150 parts
Borax	35 parts
Water	250 parts
Methyl violet	1 part

Dissolve the shellac in the alcohol and the borax in the water. Warm the first solution by placing the bottle in hot water, and then gradually add it to the borax solution while rapidly stirring the latter. Add the coloring matter last.—H. D. G., New York.

ACETONE FIXING BATH: For some months I have been using, with the best of satisfaction, an acid fixing bath made up as follows:

Water	1 pint
Hypo	3 ounces
Acetone sulphite	$\frac{1}{4}$ ounce

It is very convenient to mix up and remains perfectly clear until exhausted, when it becomes tinged with yellow. I believe that a great many readers of this magazine would continue its use if they would but give it a trial.—C. H. L., Illinois.

PYRO STAINS: I have, in the past few months, developed hundreds of plates in pyro without having any trace of a stain on my fingers as a result. The remedy is one that I ran across in an English magazine and it may be of interest to other readers of this magazine who have not seen it. There stands by the side of my developing sink a finger bowl containing a weak solution of hydrochloric acid, one part of the acid to fifty parts of water. The tap is left running gently while developing. All I have to do is to avoid placing my dry fingers in the developer. If I want to lift out the plate, the fingers are first rinsed under the tap and then dipped into the weak acid. The same is done immediately after removing the fingers from the developer. Doing this soon becomes quite automatic and it takes practically no time, because it does not delay the developing. Of course, one should avoid carrying a large quantity of the weak acid solution into the developing tray by giving the ends of the fingers a slight shake as they are withdrawn from the finger bowl. If this is done, what little is carried in does no harm whatever.—E. G. H., Texas.

ENLARGEMENTS WITHOUT A DARK-ROOM: I belong to the army of small camera users and consequently make most of my prints by enlarging. Being but an amateur, these enlargements are made only occasionally. Naturally, like so many others, my enlarging room is one that has to be made dark.

PARAGRAPHS PHOTOGRAPHIC

each time it is to be used, and the window covering removed each time, in order that the room can be used for other purposes in the interim. About a year ago it occurred to me that the difference in time required as between making the room safe for bromide paper and making it safe for gaslight paper, could be advantageously used in giving the extra exposure required for the latter paper. Such proved the case. Where before it was necessary to exclude every stray streak of white light and tone the light down to almost the degree required for plates, I now need only to draw a light curtain of ruby yellow cloth across the window, and avoid bringing the paper within the direct field of any stray light that may come in at the side. In addition, I find the gaslight paper gives me more latitude in exposure and the results have more the brilliancy and character of contact prints.—A. P. N., California.

MAKING PRINTS BY CANDLE-LIGHT: Several of my amateur friends have expressed interest in my way of making prints and a description of it may interest a few readers of this magazine. I use a 3A Kodak and do practically all my developing and printing while traveling, the exceptions being enlargements which I have made from the best of my negatives by one of the advertisers in *CAMERA CRAFT*. I use the regular bromide instead of gaslight paper. As I reach my room at night I have secured an ordinary candle if one is not remaining from the last printing, and I have, conveniently at hand, the negatives last made, but yet unprinted. All that is then needed is a printing frame, a package of bromide paper, two sheets of thin dental rubber for converting, with the aid of some paper clips, any paper box lid into a developing or fixing bath tray, some developing powders, a package of hypo, and a covering for the candle, made of ruby paper that folds flat, paper bag fashion, when not in use. I take the candle and, lighting it, drop a little of the wax on the table and set the base therein. The cover, properly ventilated at the back, is placed over it, little ventilation being needed for the short period for which it is allowed to remain while the frame is filled, all being placed handy before the light is covered. The cover is lifted and the exposure is made by lifting the covering and replacing it again, and so on. The prints exposed, they are developed and placed to fix; when, if I have some exposed films to develop, those are put through the same developer, and later through the same fixing bath, the prints being in the meanwhile transferred to the wash basin or a large bowl of water, one of which is always at hand in hotel rooms, for washing. The distance of the candle from the printing frame is determined by placing one end of the frame against the base of the candle and drawing a mark on the table at the other end. In practice, I generally put down a doubled sheet of newspaper and attach the candle thereto, placing my improvised developing tray and the boxes containing the unprinted and printed paper upon the edges to hold it well in place. The exposures range from fifteen to forty-five seconds, not an excessive period. This method gives me the minimum amount of paraphernalia to carry about as well as the minimum amount of trouble preparing to make a few prints. The candle flame, if kept fairly well trimmed, gives a surprisingly uniform illumination; making, in connection with the uniform distance of printing frame, the matter of timing quite a simple one. This

CAMERA CRAFT

is particularly the case as all my negatives are developed in one particular kind of developer and their relative density more easily judged than is possible with negatives varying in color.—P. K. L., Michigan.

CLEANING WASTE NEGATIVES: It is poor policy to lumber up one's negative files with "no-good" plates, on which one is tempted to waste good printing paper. In view of this fact, it's a good idea to occasionally go through one's collection and weed out the wasters for the purpose of removing the emulsion, in order to put the glass to other uses. One reads all sorts of methods for separating glass plates from their coating of gelatine, but if there is a quicker or better way to accomplish that end than the one given below, the writer has yet to learn of it. Go to the grocer and get a nickel's worth of washing soda,—a sufficient quantity to clear a wagonload of plates, and a cake of Sapolio. Put a couple of lumps of the soda, about the size of an average potato, into a two-gallon bucket. Pour on a couple of quarts of boiling water to dissolve them. Now place a dozen discarded plates, back to back, in a tank or fixing rack, lower it into the bucket of hot liquid, and add more boiling water until the plates are entirely covered. Set aside to soak for half an hour. The best place to do the work is at the kitchen sink, if Bridget can be prevailed on to allow a "ha-then" to muss up that portion of her domain. There one has a porcelain receptacle in which to manipulate the glass to advantage, and the hot and cold water taps for rinsing purposes, at hand. Procure a putty knife, with a blade one and one-fourth inches wide, and when the plates have soaked the required time, lift out the rack and begin the work of cleaning. It will be found that the putty knife will quickly and easily remove the emulsion, and with a little practice the operator will soon acquire the knack of best doing this. After scraping thoroughly, give the glass a good rinsing, first under the hot and then the cold water tap. Holding up to the light will show if the emulsion has all been taken off. If spots remain, go over again with the putty knife, working under the running tap. The cleaning must be thorough, for if the least trace of gelatine remains, it will stick closer than a brother when the glass dries. And here is where Sapolio enters the game. Finish up by laying the wet glass down on the drip-board and applying, to both sides in turn, the flat side of the cake with a circular motion for a moment, then rinse under the hot water tap until every vestige of soapiness disappears. A final rinse in cold water and the glass will be clean and clear as crystal. Place a couple of negative-drying racks on top of the warming oven of the kitchen range, where the glass will quickly dry. They can afterwards be polished in the usual manner. In lieu of drying racks, one can improvise substitutes by sawing notches in empty cigar boxes. The glass well polished, a few prints, some backing, mats, and strips of passe-partout binding suggest one way in which the cleaned glass can be profitably used; but that is another story. A proper application of Sapolio to the sink, when through, will leave it clean and bright as the proverbial new pin, thereby retaining the good graces of Bridget for possible future excursions into her realm.—H. C. Ferris, Colorado, I. P. A. 897.

Nature is the art of God.—SIR THOMAS BROWNE.

CAMERA CRAFT

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A Plea For Better Information

The average photographer has a wonderful opportunity to learn, to add to his stock of knowledge, and in so doing improve the quality of his work, as compared with many other craftsmen. Experiments that new material may suggest or new formulas invite, cost him but a trifle, in addition to the necessary spare time, the latter nearly always available. It is true, our average photographer does try an endless amount of new material and innumerable new formulas, but he too often fails to learn, fails to add any definite knowledge to his store, and fails to improve his work thereby. Let us say a new plate is offered, perhaps not new on the market, but one that he has not tried before. A dozen are loaded into the holders, they are used during the day, given the same treatment as the ones used regularly, but the prints for that day do not happen to average as well as usual. The plates are condemned as not equal to those previously employed. It never occurs to him that possibly the day's work might have been, through some unsuspected cause, even more unsatisfactory had not the new plates been used for a portion of the work. He never stops to reason that, through some variation from good practice in lighting, timing, developing, or printing, an inferior plate might respond to his methods better than would a plate of higher quality, better than would a plate capable, with right methods, of greatly improving his work. It is not hard to imagine a photographer using a certain plate that, unless timed with great care to avoid over-exposure, gave too soft effects with his light. This tendency he may be unconsciously counteracting with a developer that lacks the balance necessary to the very best results. Let us imagine that he is the photographer suggested above as trying a new plate and finding it lacking, something we can do quite easily. Suppose, instead of making such an unsatisfactory, unreliable, slipshod excuse for a trial, he had gone about it in a more understanding manner. Suppose he had invited one of his assistants under the skylight and made four exactly like exposures, two on the old plates and two on the new, then developed one of each pair in the old developer and two in a developer modified to correspond more nearly with the requirements of the plate being tried. It is easy to imagine that this more exact test would teach something of value. Our photographer might find that the new plate, even under the favorable condition granted by the altered developer, did not rise superior to the old. On the other hand, he might find that the new plate, used with its own proper developer, not only gave him better negatives but removed the necessity of such exact timing.

CAMERA CRAFT

always a greater or less handicap to the operator. In either case the man making the test would have added to his fund of exact knowledge of materials available, and in case of the latter result, he would have improved his methods and the quality of his work. We have mentioned plates simply as a peg on which to hang a supposed case. In reality, we do not believe there are any poor plates on the market today. They all have their own peculiar characteristics, minor variations, and all of them capable of producing good negatives. But supposing there was a great difference, would the ordinary procedure of the average photographer when making a test, enable him to determine which was really the best of any given number he might try? And when it comes to giving attention to a new formula, matters are even less intelligently handled, as a rule. The solution is mixed up, it is used, and the results are not satisfactory. Another opportunity presents and an entirely new test is made; perhaps a third. The results all vary, none being pleasing, and the formula is condemned as unworkable. Let us say it is a developer for gaslight paper. Why not make the test in a systematic manner? The first result being unsatisfactory, let us assure ourselves that the print was timed correctly by exposing a sheet of the paper and developing it in another developer, the one previously employed. This will bring the trouble directly home to the developer. Then, in order to determine just what is wrong with that, let us alter but one factor at a time instead of making an entire change. If the alkali in the developer be suspected, a new solution made up with another sample of that chemical, but with all else the same, will lead to a determination that will be final. If it is thought there may be too much or too little of any certain component of the developer, altering the amount of that chemical accordingly, leaving all other factors the same, and either a remedy is found or one more source of error eliminated. And in doing one's experimenting in this systematic manner the photographer is simply practicing what many other craftsmen have always done. The farmer, for example, if he may be called a craftsman, does not plant a certain kind of wheat in a certain way at a certain season and in a certain location, one year, and the next season use a new kind of seed planted differently at another season and in an entirely different section of the country, in order to find out how to get a good crop of wheat. His failure the first year leads him to suspect the fertility of the seed used and he therefore carefully tests the germinating power of a new lot for the second season, allowing other factors to remain the same unless convinced that they also can be improved upon. Would it not be a good plan for the average photographer to adopt much the same course in his own practice, particularly as he has so much to gain by so doing?

Mr. Hirsch Abroad

Adolph Hirsch, member of the well-known firm of Hirsch & Kaiser, left recently for an extended trip abroad. Mr. Hirsch's high standing as an optician, and his popularity with the firm's customers, has made his close application to business so practically imperative that he is more than entitled to the relaxation which the trip will afford. Our best wishes are added to those of a host of friends for his full enjoyment of his well-earned holiday.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Importance of Lens Aperture

To know and study nature is an essential for the artist, as when the art worker sets nature on one side he must know that he does so, and he must also know why he takes this course. Hence, it is that we welcome very cordially a treatise by Dr. Alexander Gleichen, in which he treats of truth to nature in photography, "Die Grundgesetze der Naturgetreuen Photographischen Addildung," von Dr. Alexander Gleichen, Verlag von Wilhelm Knapp, Halle a. S. Germany. Our author defines truth to nature to be that quality in a photograph in virtue of which, if looked at from a certain distance, it conveys to the beholder an image that is identical with what he would see if he looked at the original scene. He points out that this identity can only be photographic, or in reference to the distribution of the light, the size of the various objects, and the depth of definition.

The first essential is so obvious as to need no proof: "The aperture of the lens must be equal to the pupil of the human eye." If the photographic lens has a larger aperture than the eye, the resulting photograph must of necessity include aspects or perspective that the eye does not see. A large-sized head taken with the full aperture of a portrait lens will often show a hair of the beard as if it were transparent, as, owing to the large aperture, the lens sees, or delineates, behind the hair. Fifty years ago Brewster insisted on the aperture of the photographic lens never exceeding that of the human eye; otherwise there must be false perspective in the sense of multiple perspectives. Now that Dr. Gleichen has revived interest in this important subject, it may be well to quote from Brewster's work on the stereoscope, published in 1855. Brewster says: "The photograph of a cube taken by a lens of greater diameter (than the cube) will display five of its sides, when its true perspective is simply a single square of its surface." The second essential, as

postulated by Dr. Gleichen, has reference to the correct relation of the focal or refracting power of the lens to that of the eye, and after elaborate mathematical study of this matter, our author gives instances both in relation to the normal eye and in relation to abnormal eyes. What one may call the practical outcome is crystallised on another page, where we are told that anyone who wishes to produce a photograph which is to be viewed at a distance of two hundred and fifty millimeters (about ten inches) should use a lens of two hundred and fifty millimeters, focal length, with a diaphragh of eight to ten millimeters diameter. As ten millimeters is quite the maximum diameter of the human pupil, there must be no use of a larger aperture; hence, f-25 is the limit of speed when a lens of two hundred and fifty millimeters, focal length, is employed. Greater speed, however, can be realized by producing a small original and enlarging. An identical picture will be obtained if the original is taken by means of a lens of fifty millimeters (about two inches), focal length, with a diaphragm aperture of ten millimeters; assuming that the small original is subsequently enlarged five diameters. In this latter case the working intensity is f-5, a gain of speed in exposure which will be understood by all.—*Amateur Photography.*

The above statements strongly support the use of short-focus lenses. Thus, a four-inch lens stopped to f-11 would answer the pre-pillary requirements of a ten-inch lens working at the full requirement of an apparatus similar to the human eye. The good perspective of pin-hole pictures have here an explanation.—H. D'A. P.

A New Method of Reversing the Image

Messrs. Lumiere and Seyenithy published, some months ago, the following method of reversing the image after fixation. It will be seen that the process includes the use of a new intensifier. *The British Journal of*

Photography, commenting on the subject, stated that they found the intensifier good for general work. After waiting some time to obtain the little known mercuric bromide (I have since been informed that the mercuric chloride would have done instead), I tried the process. I am slow to doubt another man's success; by reason of my own failure, but after following most faithfully the details here given, I obtained nothing but weak and useless images. The intensifier will intensify, but it is slow, and deposits loose metallic mercury, and I fail to see any advantage in its use. Their report reads:

We have applied the method of development after fixing to the production of reversed negatives direct by the process, two variations of which we describe below.

One of the customary methods of producing a negative direct from a negative, which was suggested by Biny, in 1881, and further improved by Obernetter, in 1887, consists, as is well known, in developing an image, and then, without fixing it, dissolving away the reduced silver which forms the image in a suitable solution, finally developing the residual bromide or chloride of silver in full daylight.

This method, when used with ordinary plates, has the drawback of very frequently giving foggy results, in consequence of the presence, in the sensitive film, of an excess of silver bromide which, relatively to the total quantity of silver bromide forming the negative and positive images, is considerable.

It has occurred to us that it would, perhaps, be possible to avoid this drawback by fixing the image submitting it to the second development; then treating it, after fixing, by one of those physical developers (intensifiers), of which we have given formulae in our paper of a month or two ago on development after fixing. Experiment has confirmed our supposition, but, in order to obtain good results, it is essential to develop, or, rather, re-develop, with a mercury solution, not with one of silver, and to adhere precisely to the following conditions:

(1) The plates used should be rapid rather than slow, and the time of the first development should be prolonged considerably further (about four times) than when using the diamidophenol developer in the ordinary way. Subsequent manipulation may be done in full daylight.

(2) As a solvent of the primary silver image a bath of acid permanganate of the following composition should be used:

Potass. permanganate 1 gm.
Sulphuric acid, concentrated.... 10 ccs.
Water 1,000 ccs.

About two hundred centimeters of this bath are used for a plate 7x5 inches.

(3) The negative is then rinsed and cleared of any color of the permanganate by treating it for a few seconds in a weak bath of sodium bisulphite, about twenty cubic centimeters of commercial bisulphite lye in one thousand cubic centimeters of water. If, after this treatment, the image does not show as perfectly bleached, but still contains parts of undissolved reduced silver, the treatment with the permanganate, followed by the bisulphite bath, must be repeated.

(4) The plate is then fixed in a ten per cent solution of hypo and thoroughly washed in order to remove the last traces of this latter. The preceding operations having been done in full daylight, the silver bromide forming the image is thereby exposed sufficiently to permit of development after fixing.

(5) It is then re-developed with a physical developer consisting of the double sulphite of mercury and sodium, which is prepared as follows:

A: Soda sulphite, anhydrous.. 180 gms.
Mercuric bromide 9 gms.
Water 1,000 ccs.
B: Soda sulphite, anhydrous.. 20 gms.
Metol 20 gms.
Water 1,000 ccs.

For use of a 7x5 plate, 150 cubic centimeters, of solution A, is mixed with 40 cubic centimeters of solution B. Following the above instructions, reversed negatives practically free from fog, are readily obtained. Development with the double sulphite of silver and sodium gives images which are not nearly so good as those produced with the mercury formula.

We have likewise attempted to employ the method of developing after fixing in making reversed negatives direct according to the process published in the "Agenda Lumiere," 1907. Here the silver of the developed and unfixed image is dissolved only after it has been used as a species of screen in exposing the remainder of the silver bromide in the plate.

We have thus produced excellent reversed

results which we think are better than those obtained by the other method. The method of manipulation which we recommend is as follows:

(1) Develop the plates fully after having exposed them for the normal time. Use an ordinary developer, such as diamidophenol, and after development rinse the plate for about a minute.

(2) Place the developed plate against a black ground, say, a sheet of black paper, which is made to adhere to the glass side of the plate simply by moistening it so that the light acts only from above. The use of a black support for the plate can be dispensed with by using non-halation (backed) plates.

(3) Expose the silver bromide left unreduced by the developer to light, the latter passing through the image. An ordinary incandescent gas burner serves as a convenient source of light. With a Welsbach burner No. 2, for example, placing the negative about twenty inches away, the time of exposure will be from ten to fifteen minutes. Instead of the burner one can use twenty-four to twenty-eight inches of magnesium ribbon about one-eighth inch wide and burnt about eight inches from the negative.

(4) Dissolve the silver image in the solution of acid permanganate given above, so that the image is completely removed. This treatment, as also the subsequent stages described below, should be done by the red or green light of the dark-room. After dissolving the image, treat the plate with the weak bath of sodium bisulphite and follow with a short rinse. In hot weather take care to cool this solution so that it is not more than seventy degrees Fahrenheit in temperature.

(5) Fix the plate in ten per cent hypo solution and wash thoroughly.

(6) Bring up the image again with the physical mercury developer given above.

The image appears after about a minute, but gains strength slowly. By continuing the action of the developer for a sufficient time, from one hour to an hour and a half, the image is obtained in finest detail with the dense portions as vigorous as those of a negative developed by the customary alkaline method.

Although the time of the re-development

is considerable the solution remains perfectly usable throughout. It should be noted that an acid solution of potass, bichromate, which frequently is preferably employed in development after fixing, cannot be used in this method since it partially destroys the latent image which is left after fixing.

The Nature of the Photographic Image

Please note this is not the latent image. Whenever I see an article on the "Nature of the Latent Image," I suspect the writer has run out of copy. One can write volumes on the latent image and no one can understand; it is a safe filler. Now, I am not short of copy, and only wish to repeat another of the instructive investigations of those famous experimenters, Lumière and Seyewitz. Many workers, including myself, have realized that the deposit produced by development is not pure silver. For example, if a bromide print is treated with sodium or ammonium sulphide, it increases in depth of tone; and, if such a print is then placed in Farmer's reducer, an insoluble residual image is left, evidently of Ag_2S . As alkaline sulphides have no action on metallic silver, this Ag_2S must be due to some other salt of silver being present in the metallic image. Lumière and Seyewitz's recent investigations show this substance to be a small quantity of silver iodide, probably a subiodide Ag_2S . The amount of this salt averaged in the neighborhood of five per cent. That some part of the silver iodide present in an emulsion should fail of reduction and solution in hypo is not at all surprising to me. When experimenting with the Traube method of aniline-dyed transparencies, I found the Ag_1 image very difficult to fully reduce with developer and very slow of solution in hypo, often requiring hours for complete solution. It is just possible that this five per cent. of silver iodide might be utilized as a modifier of the color of the image. If it acts as a mordant, as does Ag_1 , treatment with a red basic dye might lead to intensification.

Intermittent Development

In the following short paper, which we translate from the current issue of Eder's *Lehrbuch*, Herr J. Gaedcke, the editor of *Photographisches Wochenblatt*, makes a useful contribution to the practical literature of development. He says

CAMERA CRAFT

Many experiments have been made with the object of so regulating development as to allow of the developer acting upon the latent image during the whole time of development and using the developer not of its full strength. Thus, Captain Colson, in the *Bulletin* of the French Photographic Society, published a system which he had worked out and which he designated "development confine." He first saturated the exposed plate with water, then laid it in the developer, covering it with a glass plate through which he watched the course of development. As soon as development ceased to progress he removed the cover-plate, repeating this manipulation until the necessary intensity of the negatives was obtained. The cover-plate was found not to adhere to the emulsion film, since the latter was thoroughly wet. In this way extremely clear and soft negatives were obtained. Immersion in, and removal from, the developer did not give equally good results in consequence, according to Colson, of the ready fogging of the plate through the oxidation of the developer. It would seem, however, that the fogging was actually caused by want of "safety" in the red light. Balagny, in the *Photo-Revue*, also published a note describing how a latent image, which was not brought out by application of the developer, subsequently appeared on laying the plate in water.

The idea of letting the developer remain in the film during its period of action seems to me a very suitable plan for the avoidance of hardness, that is, for obtaining soft negatives in cases of under-exposure.

If we saturate an exposed plate with developer, then remove it from the solution so as to allow only the developer which has been absorbed to act, the strength of the developer is soon exhausted in the highlights, whilst its action continues in the less exposed parts. We are thus provided with a means of developing the shadows for a longer period than the highlights, and thus we avoid over-development of these latter with the consequent merging into one high density of what should be distinct tones. The plate is re-immersed in developer, and allowed to proceed with the solution so absorbed, as many times as is necessary for the production of the density required.

While the practicability of such a method

of development has been proved in ordinary work, there have not been, so far as the writer is aware, any measurements made in respect to it, and, therefore, the record of experiments conducted with this object may be of interest.

It would have been useful to ascertain by sensitometric measurements the effect of such intermittent development on the number of distinguishable tones in the negative, but, as this is not of prime importance in practical work, the method adopted was to ascertain the number of printable tones which such a negative supplied.

For this purpose ordinary plates of medium speed were cut into small pieces and exposed to one hundred and twenty metre-candle-seconds behind a paper scale-photometer of sixteen degrees.

The first plate was developed with adurol for the normal time of four minutes, fixed and washed.

The negative was printed on printing-out paper, toned with platinum. Printing was done until the lightest patch 1 was distinguishable from 2. When this was the case the dark tones from 10 to 16 were merged in one black area, although, in the negative, the tones from 10 to 12 were quite sharply distinguishable. The negative showed twelve different tones, whilst in the positive only nine were distinguishable.

The second plate was flowed over with developer and kept rocking until, in about fifty seconds, the image appeared. The developer was then poured off, the dish left covered for about seventy seconds, the developer re-applied, poured off after five seconds, and then left in the plate for fifty-five seconds. This process was repeated for the third time. The whole development thus lasted for five minutes, and it was then found that the negative showed thirteen tones, of which ten were distinguishable in the positive. Of the total time of development, sixty-five seconds was the period during which the plate lay in the developer; the remainder, two hundred and thirty-five seconds, was the time during which the solution absorbed by the film only was in action.

The third plate was flowed over with developer for five seconds, the developer poured off, and the dish allowed to stand for fifty-five seconds. This procedure was repeated eight times, so that in this case the

A PHOTOGRAPHIC DIGEST

plate was treated with the full volume of developer for forty seconds only, the remainder of the treatment occupying four hundred and forty seconds. The resulting negative showed fifteen tones, of which eleven were distinguishable in the positive.

Thus, it is evident that by prolonging the time during which development takes place through the medium of the solution absorbed by the film, the production of light tones is favored, the developer being exhausted in the parts of greater density. The fourth plate was, therefore, developed for still longer times with the solution absorbed by the film, and gave a result of still greater softness. Intermittent development may, therefore, be recommended where an extreme softness of gradation is required. Its method of application is automatic and is carried out as follows: The plate is put in the developer for five seconds, the dish being rocked the while. The developer is poured off and the plate left to itself in the covered dish for one hundred and fifteen seconds, this first stage of development lasting two minutes. This manipulation is repeated altogether four times, and, after the last application of the developer, the solution is allowed to act for four minutes, so that the whole time of development is ten minutes, but the plate actually lies in the full volume of the developer only twenty seconds. The negative, treated as above, showed fourteen tones, of which twelve were distinguishably reproduced in the print. These results are tabulated in the following synopsis, the four columns corresponding to the four experiments in the order made:

Number of tones in negative	15	18	15	14
Number of tones in positive	6	10	11	12
Seconds development, ordinary bath	240	7	40	20
Seconds development, ultra-rapid bath	None	240	44	560
Total time developed in minutes	4	8	8	10

By the use of this method the worker is placed in possession of the means to obtain a negative of softness, even flatness, in circumstances where, with the ordinary manipulation, the result would be a hard negative. The method is of great service in the development of snapshots and of landscapes where there are clouds in the subject.

Of all the plates not one showed a trace of fog. It would, therefore, seem that the fogging ascribed by Colson to the oxidation of the developer, was, in fact, not due to this cause. Naturally, care is necessary to keep the dish covered during the times when the

developer is not on the plate so as to avoid undue exposure to the dark-room light.

The difference in the gradation of the highlights in plates *a* and *c* is surprising; it would suggest that the negatives were obtained on totally different plates since *c* has the character of a negative on an ultra-rapid plate and *a* that of one on a plate of "ordinary" speed. With the one brand of plate and with similar exposures, quite different negatives may be obtained, and the degree of softened gradation may be fairly well controlled by adjustment of the time during which the film-absorbed developer is allowed to act.

The process is one which is well suited to the beginner in photography, since by the simple use of a watch he can certainly provide against under-development of his plates.—*British Journal of Photography*.

The same principle is the basis of divided development, which I have found simple and excellent in practice. Divided pyro-ammonia is particularly good. H. D. A. P.

Gradation Control In Printing

When deciding upon the intensification or reduction of a negative, one is sometimes troubled with doubt as to whether it will be "for better or worse," and this is especially the case when but a small degree of correction is needed. Under such circumstances, the method of masking here described will be found preferable to making an irremediable alteration in the negative.

Let us suppose we have a hard negative, a print from which will be too dark in the shadows before the highlights show the proper detail. This negative requires flattening or neutralizing, the shadows need protecting or masking, while the highlights are left to print. Masking is frequently done by attaching a piece of thin paper to the front of the negative and working on this, but this sort of masking can only be done in masses, and the smaller details of the negative are left unaltered.

Instead of this proceeding, we make a light print, say on printing-out paper, from the negative, half, or even quarter, of the usual strength. This is fixed, and is then made as translucent as possible by thoroughly saturating the paper with a solution of wax in turpentine. It is used as a "flattening" mask, and may be attached to the glass side of the negative, but will, in this case, be a fixture

CAMERA CRAFT

during printing, and cannot be removed should the correction prove to be more than necessary. The best way is to gum a strip of brown paper to each edge of the mask, and fix it, by means of a few tacks, to the front of the printing-frame, keeping the mask close to the glass.

In Fig. 1 is shown the negative placed centrally on the glass of the printing frame, and a piece of card, not thicker than the negative, is fitted in on each of the four sides. These cards are then taken out and cut through on the slant, as in Fig. 2. Each one thus becomes a pair of wedges, and can be made narrower or wider. This will be

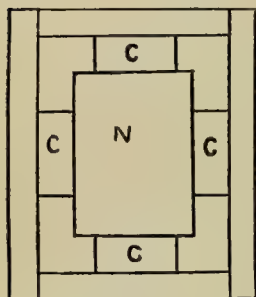


Fig 1.



Fig 2.

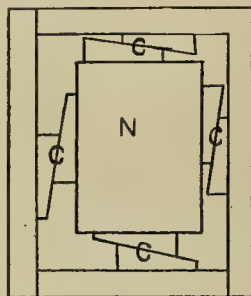


Fig 3.

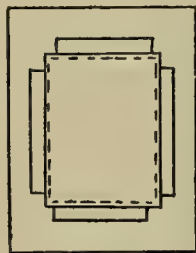


Fig: 4.

seen in Fig. 3, where the negative is shown out of center both ways.

When the negative has been accurately adjusted, a piece of gummed paper should be placed across the join of each pair of cards, and this will keep them from moving laterally.

It will probably be found during printing that the correction is too much, and that the shadows are not printing enough. In this case the tacks are carefully drawn and the mask removed. As the print approaches completion, it may be found that a little more correction is needed, and the mask is then replaced, the tacks being inserted in the holes already made.

The same method of masking can also be employed to correct a flat or weak negative, one which will not give a sufficiently vigorous print in the usual way. Here we shall have to mask the highlights instead of the shadows, and for this purpose shall require to duplicate the negative.

This is done by taking a print from the negative, and from this again taking a light print, which will naturally be a negative. This is used in precisely the same way as the positive print with the hard negative.

Instead of the paper print, a plate or carbon transparency on glass may be used, with the advantages of quickness in printing and non-necessity for waxing.

This will require a different way of fixing in place from the paper mask. A piece of stout card is taken and cut to fit in the front of the printing-frame, sufficiently tight not to move, and an aperture is cut in this a quarter of an inch smaller each way than the transparency. The transparency is laid centrally on this, and a strip or piece of card gummed or glued on one side, is placed on the cut-out card, close up to the glass. This is done on each of the four sides, and forms

a sort of frame or cell, in which the plate fits firmly (Fig. 4 will make this clear). When dry, the arrangement is fixed in the front of the printing-frame by tacks, or in any other convenient manner.

In printing, the light should be allowed to fall on the frame in a fairly parallel direction. If out of doors, the frame may be placed in and on the bottom of a box, or screened round. If indoors, a few feet from the window will be sufficient to prevent any creeping action of the light.—E. Grendon Underwood in *Amateur Photographer*.

"Dark Room Work"

The above is the title of a handsome little book, the third in the "Big Six Series" being published by Tennant & Ward, 122 East Twenty-fifth Street, New York. Like its two predecessors, it is an eminently practical manual intended to help the amateur to facilitate the production of good negatives through a better understanding of the subject of development and through a practical knowledge of the best methods and means. The price is twenty-five cents and the book is obtainable from dealers or direct from the publisher named above.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Plaster of Paris Plaque Mounting

A Massachusetts correspondent asks how photographic prints are applied to the surface of plaster of Paris plaques, as he has seen some so mounted that were very effective. One need only get a few pounds of plaster of Paris at a paint store, and the rest is easy. The plaque is made in the bottom of a dish, one being selected from the china closet that, when the bottom is filled to a depth of an inch or less, will give the desired size and shape. Porcelain dishes are the best, but those of tin or other material answer almost as well. The selected print is thoroughly moistened, and placed face down in the center of the bottom of the dish, well rubbed into contact, and all surplus water removed with a soft cloth. Then the plaster, mixed with clear water to a consistency that just permits of so doing, is poured in to the desired depth and allowed to harden thoroughly. After the plaster becomes quite hard the plaque can be removed, a knife being, perhaps, required to loosen it from the edges. The print should be found firmly attached to the plaque. Matt surface prints harmonizing best with the surface of the plaster. A tinted border, strong at the edge, and shading off toward the center, can easily be washed in with ordinary water colors. Prints by any kind of printing process may be used, blue prints lending themselves admirably to this style of mounting.

The Importance of Scale

We were in a studio recently while a customer was explaining to the proprietor that she did not like the proofs that she had called in to inspect. And she was right in not being satisfied with them, although she tried to avoid saying just why; giving her reason only after the proprietor had insisted that they were excellent in every way. The lady was a trifle below average height, and the photographer had posed her standing beside, as well as seated in, a very large chair. The result was that the subject was made to look very diminutive, and, in the standing

poses the picture brought to mind those of General Tom Thumb that were so popular in our childhood days, pictures in which the General was purposely posed beside an ordinary chair to emphasize his small stature. To the photographer the pictures looked all right because, in his mind, the chair at once took its proper size; but to another the mind at once assumed the chair to be of ordinary proportion, and the lady correspondingly dwarfed. We all know that chairs differ in size, and yet, let some variation like the above be introduced and the judgment is at once deceived. More care should be given to such matters. Coming before the eye such objects appear in their proper proportion, for the reason that perspective gives such objects their proper size; but the photographic lens reproduces them all on the flat, and the beholder then has only the element of comparison by which to judge size. And this care in the matter of accessories is not alone necessary in portrait work, but it is demanded in many other lines of photography. Some years ago we saw a set of prints, made for a fruit raiser, that failed to give the satisfaction they should, even the customer being unable to analyze the reason thereof. A year later another photographer was given the work, and the same customer was highly pleased. It was simply a matter of the right use of accessories in photographing the various kinds of fruits. The first photographer, for example, in photographing some strawberries, had used an ordinary berry box, and added some of the largest and most perfectly formed leaves from the vines. The other placed a few of the berries in a glass of the ordinary kind, but not too large in size, and for the embellishment of the composition used well-formed but smaller leaves. The result was that in his photographs the berries, which were really very large specimens, appeared large. In the picture made by the first photographer the same sized berries had the appearance of being only ordinary specimens.

CAMERA CRAFT

Fine Firelight Effects

We were recently shown some firelight effects that seemed more pleasing than those produced by the common method of staining a black and white print with a red dye or coloring solution. They were produced by making the prints of buff bromide paper and then toning with a gold toning bath, after first partially toning in the hypo-alum bath. This gave shadows black or almost so, with the half-tones of a red tinge, and the highlights the buff tone of the stock. As a variation, at least, they seemed much more pleasing than the ordinary production with the highlights a vivid red and all else in various degrees of black intensity. The toning bath is made up as follows:

Gold chloride	4 grains
Ammonium sulpho-cyanide.....	40 grains
Water	8 ounces
Hydrochloric acid	40 minims
Chloride of sodium.....	40 grains

After the print, partially toned in hypo-alum, has been thoroughly washed, it is immersed in the above bath, which must be mixed up in the order as given. Starting in about ten minutes, the print goes from pink to red, and on to a rich crimson, the desired shade being held by removing and washing. The process is an interesting one, variations depending upon the relative amount of toning action permitted the first or hypo-alum bath and the gold toning advised.

Flare Circles In Night Photography

A New York correspondent has sent me several examples of night photography, all of them containing a very objectionable halo or flare around the one or more strong lights within the field. He wishes to know how this can be prevented or minimized. The fault lies in the lens, although it cannot really be called a fault, for the reason that it is an indication of a very fine lens for all other purposes. One must remember that as the optician makes a lens more perfect in other directions, the tendency to give flare increases. This is not apparent in ordinary daylight work, but when almost the whole picture is made up of darkness with a few comparatively, very strong highlights therein, a fine lens is prone to give flare images of these lights. The best lens for work such as these night scenes is a single cemented

acromatic one with its outward surface as little curved as possible. The back combination of a rapid rectilinear will be found very suitable. Such a lens lacks rapidity, and the focal length may be a little too long for all classes of night work, but for the examples before me it would have, apparently, answered admirably.

The Duration of a Wink

It comes up, once in a while, the question of speed of shutter and closed eyes, or else it is a flashlight picture that is spoiled, and the question arises as to where the fault lies. It has all been figured out by scientific measurement. It takes seventy-five ten-thousandths of a second for the lid to fall, the eye remains closed for twice that period, and the raising of the lid occupies still a trifle longer. Of course, the time varies slightly with different individuals, but the above can be considered as the normal. The entire wink consumes practically four one-hundredths of a second. Even then one can figure that the eye is only closed entirely for fifteen one-thousandths of a second, the rest of the time being occupied with a quite rapid motion hardly capable of being stopped except with a fairly fast shutter. The information is at least interesting.

Paper Sticking To Negative

The best way to remove paper that has accidentally become stuck to a negative through a drop of water getting on its film surface, is as follows: Place the paper and negative in an ordinary hypo bath for several hours without trying to pull them apart, and thereby damaging the film. Then, holding the finger tightly over the stuck portion of the paper, and tear away the surrounding portion that does not adhere to the film. Remove the finger, and by being careful, the remaining portion can safely be rubbed away with the finger tips, perhaps needing additional soaking. If a spot remains, somewhat of a silver stain from the silver taken up from the paper, immersion in a combined toning and fixing bath such as was used for papers some years ago, will remove it if it can be removed. The negative should be washed slightly before going into the combined bath and remain therein for an hour or more. Full washing follows.

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NEW MEMBERS

3295 J. R. Herrick, Jr., Box 1105, San Diego, Cal.
Class 2

3296 T. J. Hoge, Postal Telegraph Co., Pittsburg, Pa.

145 and smaller, developing papers, of portraits, landscapes, and historical views for the same. Class 1.

CAMERA CRAFT

- 3297—Dave Thomas, Box 217, West Pittsburg, Pa.
2½x4¼, 3¼x5½, and 5x7, developing paper, of general views; for the same. Prints and post cards. Class 1.
- 3298—Stanley Kinney, Box 395, Ardmore, Okla.
3¼x5½, developing papers, of scenery; for anything interesting. Post cards and prints. Class 1.
- 3299—Kenneth J. Murphy, Box 762, Anaconda, Mont.
3¼x5½, developing paper, of mountain scenes, camping, outdoor and game views; for the same. Post cards only. Class 1.
- 3300—Clyde Merritt, R. F. D. No. 3, McCune, Kan.
3¼x5½, developing paper, of landscapes, miscellaneous, and country scenes; for anything of interest. Prints or post cards—no portraits. Class 1.
- 3301—W. McGinty, 402 Juniper Ave., Moundsville, W. Va.
6x8, 3¼x5½, and smaller, developing and printing-out papers, of farm scenes, and landscapes; for mountains, lakes, rivers, ranch life, artistic or interesting landscapes. Post cards only except by special agreement. Class 1.
- 3302—Paul F. Weaver, Box 91, West Pittsburg, Pa.
3¼x5½, developing paper, of general views; for the same. Post cards or prints. Class 1.
- 3303—Frank J. Martin, 681½ Wabash Ave., Terre Haute, Ind.
Class 2.
- 3304—Kenneth Spencer, 471 Maple St., Battle Creek, Mich.
Class 3.
- 3305—Lloyd H. Williams, 753 18th St., Des Moines, Iowa.
3¼x5½, developing paper, of anything; for the same. Class 1.
- 3306—Edward Holmes, Box 395, Eureka, Utah.
5x7 to 3¼x4¼, developing and printing-out papers, of mountain scenes, outdoor views, and photos of children; for anything of interest. Class 1.
- 3307—Ralph S. Hawkins, 1215 Irola St., Los Angeles, Cal.
Class 2.
- 3308—W. C. Cairncross, Box 567, Wahpeton, N. D.
3¼x5½, developing and printing-out papers, of buildings, farm scenes, flashlights, and comic photos; for unmounted prints of general interest and unusual. Unmounted prints only. Class 1.
- 3309—G. W. Jackson, Union Bank of Canada, Cabri, Sask., Canada.
Class 2.
- 3310—Ralph R. Smith, Box 86, Norwood, Colo.
3¼x5½ and 5x7, developing papers, of mountain scenes and comic pictures; for the same, also marines. Class 1.
- 3311—Norman R. Macy, Box 604, Chico, Cal.
Class 2.
- 3312—Mrs. Chas. Staveley, R. F. D. No. 3, Reinbeck, Iowa.
Class 2.
- 3313—W. H. Umlach, R. F. D. No. 4, Weatherford, Okla.
3¼x5½, all kinds of paper, of views, buildings, and snapshots; for views, hunting, fishing, camp scenes, and general photos. Post cards only. Class 1.
- 3314—Philip Ballweg, Baker, Ore.
Post cards, developing paper, of general views; for the same. Class 1.
- 3315—Edna E. Williams, Fair Havin, N. Y.
4x5, 5x7, developing papers, of general views, marine, some children, and animals; for the same. Post cards only. Class 1.
- 3316—Kenneth Alexander, Box 7, Edgemont, Ark.
2½x4¼, developing and printing-out papers, of miscellaneous views for the same. Good work for good work. Class 1.
- 3317—R. E. Stinson, Colusa, Cal.
Class 2.
- 3318—Carol A. Blau, Box 26, Brillion, Wis.
4x5, of mostly pictures of people, some scenes; for scenes. Post cards and prints. Class 1.
- 3319—J. F. Jacobs, 353 E. Washington St., McAlester, Okla.
2½x4¼ and 4x5, developing papers, of landscapes, portraits, and general views (unmounted); for scenery, accidents, fires, wrecks, and general pictures of all kinds (unmounted). Class 1.
- 3320—Cecyl Moore, Box 208, Gilroy, Cal.
Class 3.
- 3321—G. Guy Williams, 24 S. 8th St., La Fayette, Ind.
3¼x4¼ and 5x7, developing paper, of still life, speed, and historical; for still life, speed, historical, and monuments. Class 1.
- 3322—Ernest L. Oaks, Box 447, Escondido, Cal.
2½x4¼, developing papers, of landscapes, and mountain scenes; for pictorial views, landscapes, and none but best desired. Class 1.
- 3323—George H. Holmes, 5 Washington St., Ashtabula, Ohio.
6½x8½ and smaller, developing and printing-out papers, of general views, machinery, and of anything that I have occasion to take; for general views or anything new and of interest. Class 1.
- 3324—Henry Scholz, 1269 E. Chelton Ave., Germantown, Pa.
4x5 and smaller, developing and self-toning papers, of landscapes, historical and general views; for landscapes, historical scenes, buildings, and general views. Class 1.
- 3325—Mrs. F. I. Bard, Box 72, Arcadia, Texas.
3¼x5½, developing paper, of scenes, orchards, trees, residences, groups, and local views; for views from California and Western States, ranch pictures, mountains, landscapes, and nature studies. Good work for good work only; post cards or prints. Class 1.
- 3326—Corbin B. Stambaugh, Swan Creek, Ill.
Class 2.

RENEWALS.

- 1284—Wm. Thunen, 220 Bridge St., Oroville, Cal.
Class 2.
- 1817X—Lettie M. Loomis, Summerland, Cal.
4¼x6½, developing paper, of landscapes, ocean and mountain views; for anything of interest. Post cards only. Class 1.
- 1909X—Eva Van Valkenburgh, Inverness, Cal.
Post cards and 5x7, developing paper, of California landscapes, marine views, and flowers; for landscapes, marines, animals, children, or any good picture showing character of country. Class 1.
- 1987X—W. W. Tetlow, East Millstone, N. J.
5x7, developing paper, of landscapes, water scenes, and views of general interest; for the same. Only good work received and sent. Post cards only. Class 1.
- 2269X—Carl Farnsworth, Litchfield, Neb.
4¼x6½ and post cards, developing paper. I returned in March from a trip to the east coast of South America and have a few good views of the same, also landscapes, mountains, animals, children, etc.; for anything of general interest, noted mountain views, and other noted places of interest, foreign views and exchanges especially desired. Good work sent and desired in exchange, only. Class 1.
- 2461—Margaret Seaman, R. F. D. No. 2, Box 41, Utica, Neb.
Class 2.
- 2784—Willis Knippel, 7231 Michigan Ave., Chicago, Ill.

CLUB NEWS AND NOTES.

Postals from 4x5 negatives, developing papers, of park views, railroad views, baby pictures, and portraits, no retouching; for anything of interest. Post cards only. Class 1.

2840X—E. Hodges, R. F. D. No. 1, Greenfield Center, N. Y.

Post cards, developing paper, of historical places, landscapes, and interesting subjects; for anything interesting, historical views preferred. Privilege of rejection extended and expected. Post cards of good work only. Class 1.

2894—John F. Fensel, Montpelier, Ind.
Post cards. Class 1.

2898—H. H. Donley, Mayburg, Pa.
Post cards only, of lake or ocean scenery; for mountains and lumbering scenes. Class 1.

2902—E. H. Bauman, Box 322, Boyertown, Pa.
Prints or post cards, of photos—any subject. Class 1.

2903—S. J. Hammill, Box 253, Lonaconing, Md.
Class 2.

2912X—Chas. Rasmussen, Bayard, Iowa.
2½x4½ and 3½x5½, developing and printing—out papers, prints and post cards. Class 1.

2946—F. L. King, San Miguel, Cal.

3¼x5½, developing paper, of landscapes and local views; for the same. Post cards and prints. Class 1.

3145—L. D. Hamman, Nappanee, Ind.

Will exchange post cards of nature studies; would like some from the Philippine Islands.

CHANGES OF ADDRESS.

1731—E. C. Huntington, 2245 Knapp St., St. Paul, Minn.

(Was 1625 Hewett Ave.)

2740—Dale F. Stansbury, Williamsport, Ind.

(Was W. Lafayette, Ind.)

2761—Obert J. Hyland, Heimdahl, N. D.

(Was Hayfield, Minn.)

2786—Mrs. Franc Hagestead, Winnemucca, Nev.

(Was Junco, Nev.)

2991—Charles Hutter, 123 Millbury St., Worcester, Mass.

(Was Fort D. A. Russell, Wyo.)

3163—J. E. Rose, Hillsboro, Ore.

(Was Swofford, Wash.)

3239—W. D. Kyle, 920 Harmer St., Ft. Wayne, Ind.

(Was 1117 Maumee Ave.)

CLUB NEWS AND NOTES

The Eighth American Salon

Other exhibitions, scheduled for various art museums, have gotten delayed in their regular schedules, throwing out the dates, in some cases, assigned earlier in the season to the American Photographic Salon. This has necessitated changing the original itinerary and leaving out one city, St. Louis, entirely, because of the impossibility to make a continuous circuit including it. The new schedule is made up as follows: John Herron Art Institute, Indianapolis, March twenty-fourth to April tenth; Toledo Museum of Art, April fifteenth to May third; Chicago Art Institute, May seventh to thirty-first; Art Institute, Kansas City, June third to twenty-eighth, and then returned to Toledo, Ohio, from where the pictures will be forwarded to their owners.

Camera Club Meeting

The Riverside Camera Club was the guest of Edwin Avery Field Wednesday evening, March twentieth, in his two studios, one in the Evans Block, and the other in the Loring Block.

The attendance was good, and a lively interest was manifested in the two exhibits of prints on display. One of these was from Los Angeles, and contained a large number of familiar California scenes treated in an artistic manner. The other exhibit was from San Francisco, and this also comprised a number of decorative studies and portrait

groups. Noteworthy were the studies of Indians.

The members of the Club brought the prints they had made of Chinatown subjects, and compared notes on the compositions.

During the evening Mr. Jay Jessup gave an interesting extemporaneous talk on the subject of developing and printing.—*Riverside Daily Press*.

California Camera Club

On Tuesday, April ninth, the annual election of officers of the California Camera Club occurred at the rooms, 833 Market Street, San Francisco, and at the annual meeting in the evening, the result was announced as follows: President, Edward H. Kemp; First Vice-President, H. H. Tracy; Second Vice-President, E. L. Foucar; Secretary, C. W. Evans; Corresponding Secretary, H. E. Poehlman; Treasurer, A. B. Currier; Librarian, J. P. Zipf, and for extra Directors: E. D. Taylor, L. A. Goetz, John R. Douglass, and G. T. Bertolacci.

During the evening, Stanley McGinnis showed a large number of excellent Autochrome and Tripak slides. C. H. Brown, of Oakland, demonstrated the Shoburg Portable Skylight for flashlight portraits. Refreshments and music concluded a pleasant evening.

Several picture-making outings are being arranged for and many demonstrations will be given during the season.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Change of Address

Attention is called to the removal of the Jas. H. Smith & Sons Company from their old address, 725 East Thirty-ninth Street, Chicago, to 3541 Cottage Grove Avenue, same city. It is customary to explain that a removal is due to greatly increased business, but with this enterprising firm such a statement was evidently not required. Their well-known and efficient line of flashlight material has done much to popularize flashlight work, and it is but natural that they should reap a generous reward in increased business from month to month, as such popularity grows.

Enlarging Their Facilities

We are advised that new lithographic machinery, with automatic feed, capable of printing as large a sheet as can be printed anywhere in the country, is being installed by the E. C. Kropp Company, of Milwaukee. They are also installing a complete varnishing plant for varnishing their post cards. This firm is one of the pioneers in the card business, having started immediately after Congress passed the private mailing card act in March, 1898. Ever since, they have manufactured local view post cards only. "Our long experience is at your service," is a favorite phrase with the Kropp people.

Reported by William Wolff

Attended the Inter-Mountain Convention at Salt Lake City, April third to sixth, inclusive. It was an enthusiastic and successful gathering, largely attended.

E. A. Moore, of Nevada City, reports a good business for this season.

T. C. Wohlbruck has opened a fine studio in Reno, giving it the name of the Craftsman Studio.

The Riverside Studio in the same town has been newly fitted out throughout.

C. S. Wheeler, of Pendleton, has made alterations;—also removed his beard.

F. C. Wilson, of Astoria, is always adding new accessories and getting the cream of the

business. A Seavey window and some handsome new grounds are the latest.

Mrs. M. A. Swope has returned to Astoria after attending the funeral of her daughter.

Salem has five studios, all claiming a good business.

J. E. Tuttle has opened a classy new bungalow studio at Eugene.

C. W. Hill, late of Coquille, is now located at Rosebury.

Mrs. F. W. Lesmeister continues to do a nice business at Central Point, Oregon.

At the Sportsman's Show

One of the most interesting features of the Sportsman's Show, held at Madison Square Garden on March first to ninth, was the exhibit of the Hall Camera Company, consisting of an elaborate display of autochromes and transparencies made with the Hall Mirror camera. The well-known device for exhibiting the Hall shutter in operation was an attractive feature of the display, and was the only photographic show scheduled for this important sporting event. Mr. Hall was in attendance personally, and invited all of his photographic friends to call upon him at the Hall booth. He also showed, for the first time, the smallest camera ever made, containing a focal-plane shutter. The latest addition to the line is of such splendid construction, and is so compact and satisfactory in operation, that the company will have a hard time filling orders for some time to come.

Notes From the I. C. P.

The enrollments at the Illinois College of Photography for last month represent students from many different parts of the country, as follows: Kojichi Otsuka, Japan; Raymond Fonderhide, Ohio; J. T. Nixon, Illinois; Harold E. Morton, Kansas; Richard A. Halling, Nebraska; Lionel L. Merrill, Canada; Conrad F. Torgerson, Minnesota; E. Meives, Wisconsin; Ora Stover, Ohio; Richard J. Ribbe, Wisconsin; Alice E. Miller, Indiana, and F. W. Catencamp, Wisconsin.

NOTES AND COMMENT

We received visits last month from former students M. G. Rutledge of 1910 and Wm. B. Souers of 1908. While here, Mr. Souers engaged K. H. Sturtz to assist him in his studio at Bridgeport, Illinois.

Two of our popular students, R. J. Latshaw of Wisconsin and Mrs. Ada Dunham Macfie, the charming "college widow," gave their many friends here a surprise by getting married last month at Lincoln, Illinois, where Mr. Latshaw has been located for the past few weeks. Mrs. Latshaw has returned to finish her course at the college and expects to assist her husband in the work.

"The Implet"

This is the title of a new motion picture publication now in its tenth number, which is edited by Thomas Bedding, F. R. P. S. In Mr. Bedding we recognize the former editor of the *British Journal of Photography* in London, editor of the *Moving Picture World*, New York City, and many other publications on both sides of the Atlantic. Mr. Bedding's knowledge of the moving picture business in Great Britain and the United States should stand him in good stead in his new position.

Victor Opaque

A jar of Victor Opaque should be included in the furnishing of every photographic workroom, no matter how modest and limited the equipment may be. It keeps indefinitely and is put up in a moist condition that makes it easy of dilution to any desired consistency for use either with a brush or pen. It gives a thin, smooth coating that dries hard, and it will not peel, crack, chip, or rub off, although it can easily be washed off if desired. Best of all, it does not leave a stain when removed and does no damage to the film of the negative. It is invaluable for spotting, lettering, blocking out parts of a negative, in fact, a jar at hand will be found constantly in demand in the printing room and about the retouching desk. This particular brand is of very fine quality and should be given a trial. A small bottle costs but twenty five cents, although the fifty cent size is more economical. Larger sizes sold for use where a lot of blocking out is done. It is manufactured by James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, Illinois.

All Photo Products Company Papers Now Non-Curling

The Photo Products Company for some time have been working out a new process of preparing the stock used in the manufacture of their various papers and post cards in view of eliminating the common tendency of photographic paper to curl due to the pulling of the emulsion. This result has been accomplished by coating the back of the stock in such a manner that the action of the emulsion is counteracted and as a result the sensitized product lies perfectly flat while handling, and, if prints are properly dried, they will remain flat indefinitely. They have just announced this innovation in the manufacture of their products, which no doubt will prove interesting to users of developing paper. This improvement will cover all papers and post cards they manufacture, including Platora, their professional portrait paper, and Instanto, their less expensive product. The curling in developing paper is undoubtedly a most disagreeable tendency and if the change they have made will overcome this fault, they are surely to be congratulated. Samples of their products will be sent professionals on request.

Coloring Photographs

We have, still again, been shown some very effective pictures, the result of practically inexperienced coloring of ordinary prints with the celebrated Japanese Transparent Water Colors. These colors have been on the market for a number of years and we have yet to hear of any dissatisfaction expressed by those giving them a trial. It is the tendency of all photographers to be governed in their selection of subjects by the colors which are presented by nature, only to be more or less disappointed with the final print in monochrome. With these colors, so simple of application and so effective as to results, many of the pictures one-takes cannot only be redeemed but made even more pleasing than others quite pleasing in composition but lacking the charm of nature's tints. Look up the advertisement on another page and investigate the advantages offered.

Lens and Brush Club

You are invited to participate in the Sixth Annual Exhibition of the Lens and Brush Club, Northampton, Massachusetts, which

CAMERA CRAFT

will be held in the Y. M. C. A. Building, King Street, Northampton, from June third to eighth, inclusive, 1912. Entry blanks will be sent upon request to D. C. Fitts, Secretary.

Exhibits must be delivered, carriage paid, to the Secretary, Y. M. C. A. Building, King Street, Northampton, Massachusetts, on or before the seventeenth of May, 1912, and an entry form, properly filled out, must be mailed separately to reach him before that date. Exhibits from points outside the United States must be sent by post. No fee is charged for entrance. Pictures must be mounted, but may be framed if desired. Each must bear, on the back, the title, the exhibitor's name and address, and club, if any, to which he or she belongs. All work, including mounting, must be the bona fide production of the exhibitor.

Due care will be taken of all exhibits, but the Club cannot assume any responsibility for loss of or damage to them. Exhibits will be returned as soon as possible after the exhibition, provided a sufficient amount is enclosed to cover return postage. No picture which has been accepted in any previous competition of the Club will be eligible.

A Meritous Utility

It was our good fortune to see a demonstration of the capabilities of the Radion Enlarging-Printer in the rooms of one of the local stock houses recently and we cannot recommend the apparatus too highly as the best investment one can make in the way of photographic apparatus. The user of a small camera, anything up to the popular $3\frac{1}{4} \times 5\frac{1}{2}$ or 4×5 size, using it, can make prints of any reasonable degree of enlargement and do it practically as rapidly as he can make contact prints. Size can be varied almost instantly, the picture is seen on the paper support so that one can judge just how much enlargement will best suit, and the change from one size to another takes but a moment. The user has but to place his camera on the bracket supports of the Radion and enlargements are made with ease and rapidity. The firm has been in the business for many years and have an excellent reputation to sustain. Address, H. C. White Company, 502 River Street, North Bennington, Vermont. Write them for literature should your dealer not have one to show you. Hirsch & Kaiser, of this

city, are trade agents for the Pacific Coast and will be pleased to show and demonstrate its merits.

Mr. Bissell Made President

The Across-the-State Good Roads Convention was held at Effingham, March twenty-eighth. More than two hundred delegates from Terre Haute to East St. Louis attended. The meeting assures improvement of the National road across Illinois. An executive organization and resolution committee was elected from each county. The officers are: L. H. Bissell, president; M. E. Began, vice-president; J. H. Curry, secretary; E. L. Damron, treasurer, all of Effingham. L. H. Bissell, who was elected president of the National Road Association, is the founder and president of the Illinois College of Photography at Effingham.

Flashlight for Screen Color Plates

The makers of "Agfa" Blitzlicht flash powder advise that this powder is especially suited for the making of autochrome plates, it only being necessary to use a screen adapted to this light. Such a screen can be prepared as follows:

Gelatine Solution, 6 of.....120 c. c. m.

Filter Yellow K Solution,

1 in 100.....12 c. c. m.

Distilled Water12 c. c. m.

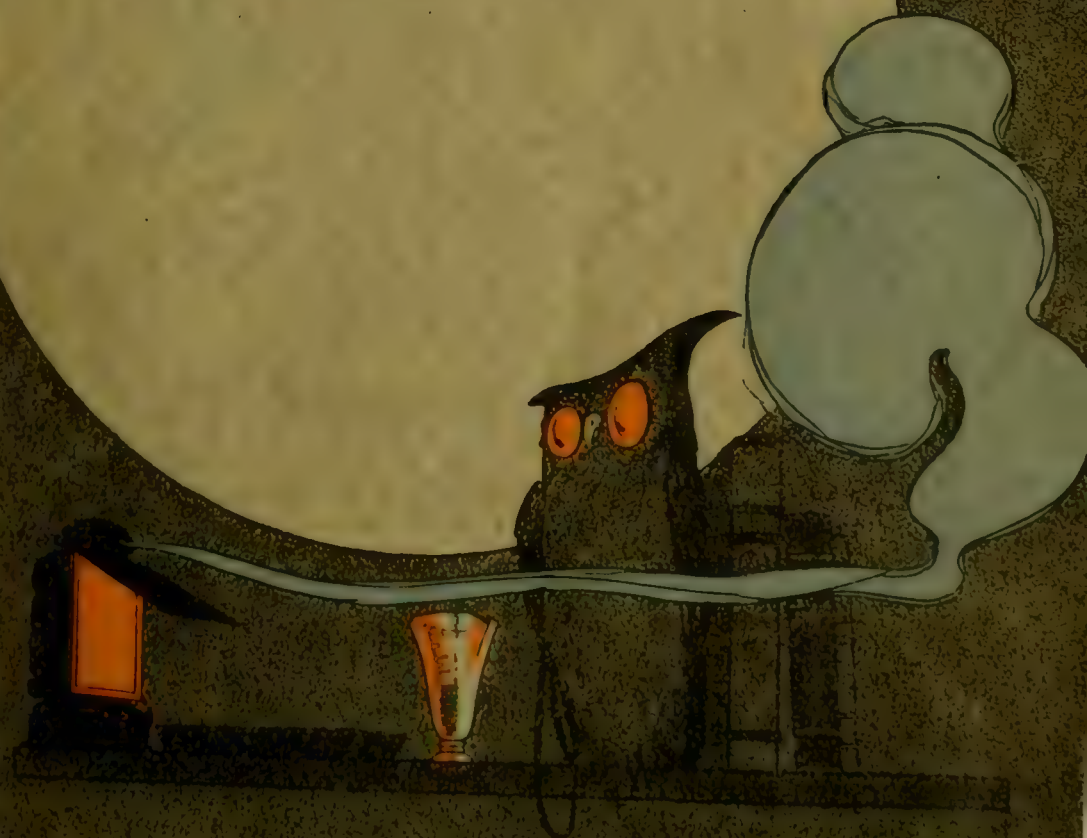
Of this solution, take eight cubic centimeters and pour over a sheet of optically parallel glass, about 4×5 inches in size.

In making flashlight exposures, use about twenty-five times as much flash powder as for regular flashlight work.

Get Your Name On the List

The Central Dry Plate Company, 1811 Arsenal Street, St. Louis, Missouri, are putting out what they call "Central Progress," a piece of reading matter that should interest every photographer in the country, both professional and amateur. Drop the firm a card and ask them to put your name on their mailing list so that you will get such printed matter as they put out. They realize that it would take an army of men to reach even a small proportion of the photographers, so widely distributed as they are, and the firm proposes to reach as many as possible with printed matter that they will make interesting. They have thousands of names on their list, but they want yours also. Drop them a card; they will make it worth your while.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

"Put it up to men who know"

Knowledge without experience is theory. Theory without practice is without value. The choice of a photographic paper must be based on practical knowledge.

The leading photographers in this country use

C Y K O

The professional photographer is making prints day in and day out.

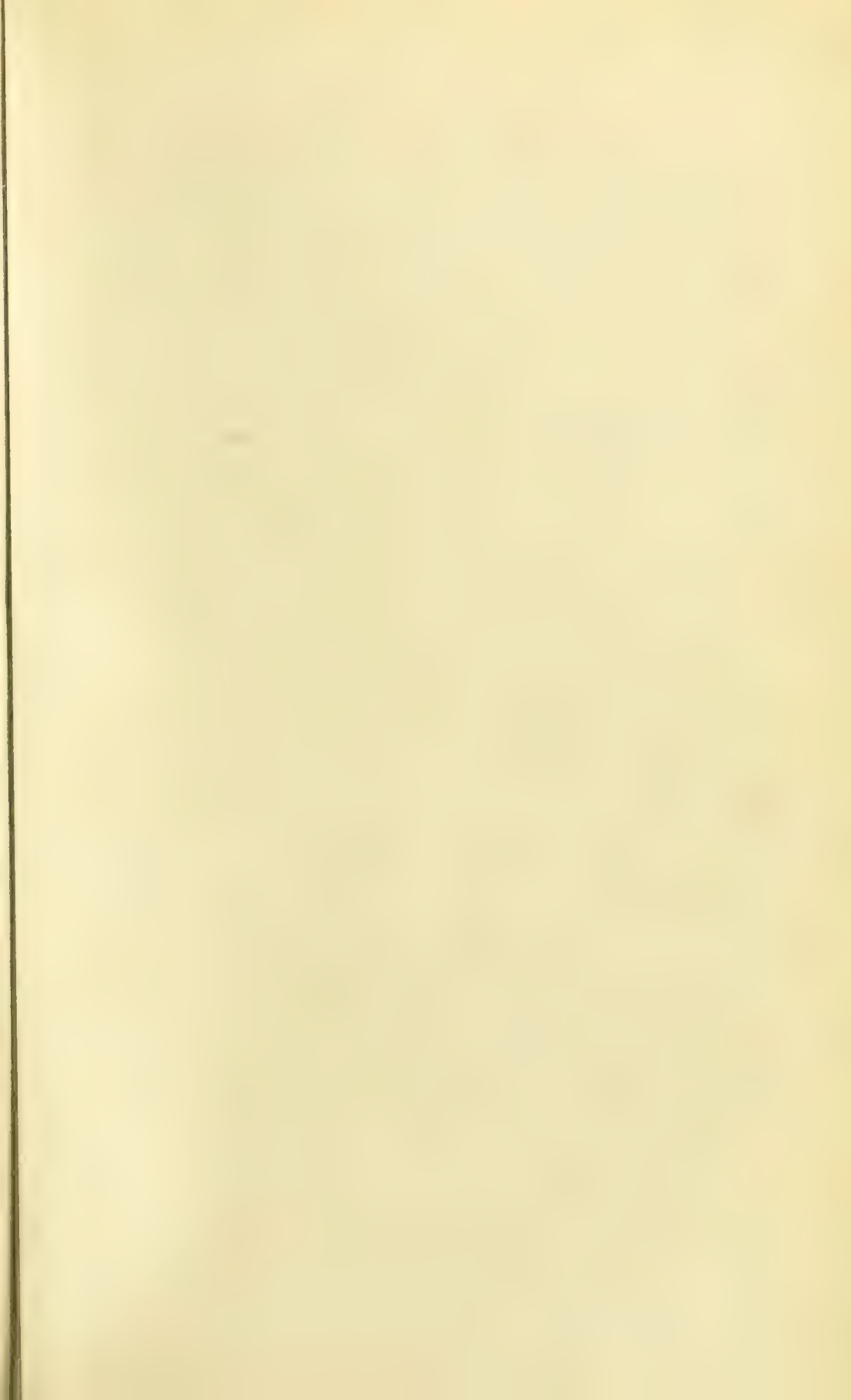
A dozen demonstrators wait on him every day to show him that something else is better than what he is using.

The proof of CYKO superiority is that he continues to use

C Y K O

AnSCO Company

Binghamton, N. Y.





MISS W.
BY F. MORRIS STEADMAN.

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A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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No. 6

How I Became A Camera Fiend

By John F. Fensel, I. P. A. 2894



With Illustrations by the Author



MY SISTER-IN-LAW POSES AS A MILKMAID

correspondence, he received the printing press that he wanted and I found myself the proud possessor of a $3\frac{1}{2} \times 3\frac{1}{2}$ Eastman plate camera, two loaded plate holders, a package of developer, one of hypo, and an instruction book.

VISITING us, during the winter of 1904, was my sister-in-law. Telling her about a neighbor who had a camera and was making good pictures, she expressed a desire to have him come over and exercise his skill in making some views which she wanted; but the gentleman was too busy husking corn to permit. But that sister-in-law had to have the pictures. I put an advertisement in one of the papers, offering to exchange a small printing press I had for a camera. Among the answers was one from a man near Indianapolis; and, after some

CAMERA CRAFT

I read the book through, acquiring, as I afterwards learned, about as much knowledge of taking pictures as a hog has of Latin. But I thought I knew it all. I put one of the holders in the camera, went out and located my pet sheep in the view finder, and snapped the shutter. It was all so easy. Then I hiked over to my corn-husking friend and enlisted his assistance in "doing the rest." He invited me into his dark-room, took the holder out of the camera, withdrew the slide, and for the first time I saw a photographic plate. I asked him if that slide had to be pulled out before making the exposure, and he said, "Yes." I had not done so. "Well," he said, "you have exposed your ignorance instead of a plate," and his uproarious laughter led me to believe that my mistake was considered humorous. However, he eventually quieted down and told me in detail just how to perform with the camera.

I proceeded home, feeling sure I had acquired such a full mastery of the details that I could cope successfully with the charms of my dear sister-in-law and gratify her desires as to their successful portrayal. I posed her standing in a doorway between two rooms, a large window back of her and in direct line with the camera, so that there was plenty of light. My sister-in-law is a good girl,—she deserves a halo, and she got it in the resulting picture, all right. I felt a little squeamish about photographing these invisible auras, and as those who were not aware of the saintly character of my sister-in-law persisted in blaming it on my lack of photographic skill, I sought a subject less liable to show such manifestations. The next picture should be of my wife.

She wanted it to be a bust picture, so I brought the camera up to within about three



BUSY HUSKING CORN

feet of her face, where the head and shoulders filled the finder fairly well, and again snapped the shutter. The camera was a fixed focus one, not capable of giving a sharp image of anything nearer than five or six feet; and, as I then knew nothing about artistic photography, I promptly threw the resultant negative away. The cow was the next victim, but whether she escaped before I snapped the shutter, or afterward, I never found out. She was certainly not on the plate, because we could only find the side of the barn when my neighbor put it through the developing process. The fourth and last plate was snapped

HOW I BECAME A CAMERA FIEND

on one of my horses, firmly tied so that he could not get away, but even then I only got the head coming in from one corner. I had used my four plates without making a single good picture.

But I was not entirely discouraged. I bought a lot of supplies and went at it again. By practice and with more instruction gathered from my neighbor when he was not too busy husking corn or displaying his wonderfully keen appreciation of a joke, I gradually reached a stage where I could make some fairly good pictures. Being desirous of making my hobby pay its way if possible, I solicited work from my neighbors at one dollar per dozen for the



A PIONEER INDIANA PLOWMAN

$3\frac{1}{2} \times 3\frac{1}{2}$ prints, mounted. I soon made over fifty dollars without allowing the work to interfere with my farm duties, and began to think I was quite a photographer. I sent to a mail order house and got a new camera, 4×5 size, but there was something the matter with the shutter; it would either open promptly and then forget to close, or it would become so absorbed that it would entirely forget to open when the pressure of the bulb was given as a signal for it to do so. Its eccentricity lost me several good jobs; people had little patience with its uncertain behaviour, so I traded it off and bought a 4×5 Eastman Kodak and a Kodak enlarging camera.

With these I turned out good work and did a good business. There was quite a demand for $6\frac{1}{2} \times 8\frac{1}{2}$ bromide enlargements at fifty cents each, and that led me to believe I should have a larger camera. One was bought; and, when I got behind that camera with the focusing cloth over my head I felt that I was a professional photographer for sure. An opportunity to exchange places with President Taft would have had scant consideration from me. I was in the

CAMERA CRAFT



WHERE FISHING IS GOOD

heights of my glory,—if the plate would only turn out all right when I came to develop it. And I was getting along so well that it usually did.

But I soon discovered that being a professional photographer had a few drawbacks. The horses were needed on the farm, and walking to make a photographic call, carrying about twenty-five pounds of photographic paraphernalia, was not the greatest pleasure. So I traded the Kodak for a 5x7 Premo and found the latter much lighter than my "view" outfit, and capable of making just as good pictures, even if the pictures were views. The lens that came with the camera, a rapid rectilinear, was discarded for a Velostigmat, a lens which has given me the best of satisfaction on account of its definition and covering power and the roundness of the image produced. The only thing that bothers me is this: Since spending all my own spare cash and some of my wife's butter money to buy this lens, I have found that only fuzzy pictures are artistic; even the makers of my Velostigmat are busy teaching us poor ignoramuses that fact and advising us to buy a soft working lens. They certainly imposed upon me when they sold me the one they did. Perhaps, however, they did not themselves know the merits of the fuzzy work at the time.

The sound and proper exercise of the imagination may be made to contribute to the cultivation of all that's virtuous and estimable in the human character.—ABERCROMBIE.

A Unit Method In Photography

By Frank Morris Steadman



With Illustrations by the Author

At the present time we have practically but one term by which to express light intensity, *i. e.*, candlepower, a term based on the illuminating power of light radiating from a small surface. As a measurement it is useful in expressing the illuminating power of artificial lights used for illuminating purposes, but it can hardly be employed to designate the amount of light reaching an object or surface from a source of light such as the open sky.

The candlepower of a light, it might be well to explain, is determined or ascertained in the following manner: Two small, adjacent suitable surfaces are illuminated, one by a standard candle at a standard distance, and the other by the light to be measured. This latter is retired from the apparatus or photometer to such a distance as will cause the luminosity of the test surface upon which it shines to just equal that of the adjacent one illuminated by the standard or unit candle, located at the standard distance. The equalization of the two luminosities is determined by the vision: the candlepower of the light being tested is then calculated on the basis of the well-known law of inverse squares. This law can be stated as follows: The intensity created by a small light source is in inverse ratio to the square of the distance therefrom. It follows that the intensity of two lights, arranged as described above, will be in direct ratio to the square of their distances from the illuminated surfaces. For example, an incandescent electric light which, at four feet, equalizes the illumination of the standard candle at one foot, would have the square of four, or sixteen, candlepower.

Candlepower, as a unit of measurement, is seen to have a special application and one not at all suited to the needs of the photographer. Rarely is a



MISS H.—Tint Time, 2 seconds; Subject Factor, $\frac{1}{4}$; Exposure, 1 second with Speed Stop U. S. 32; Exposure given, $\frac{1}{2}$ second with U. S. 16.

CAMERA CRAFT

photographer called upon to photograph the source of an artificial form of light, or even a subject lighted therefrom; and, should he be so requested, knowing the exact candlepower of the light would aid him but little, because candlepower would express visual, not chemical, intensity.

Let me quote two paragraphs from the manuscript of my new book, "A Unit Method in Photography," soon to be published:

"A NEW PHYSICAL QUANTITY: We are endowed by nature with what may be termed a sense of quantity values, and it is this sense that is gratified by the possession and use of definite terms of measurement."

"In order to apply such knowledge as can be gained from exact measurements, to the practice of photography, it becomes necessary to accept a name, one not heretofore employed, to describe a common property of light, a property capable of measurement, namely, actinicity. This can be defined as the property of light radiation to produce certain chemical action upon converging at a point. This property is possessed by light radiating from any surface,

be it that of the sun or that of some quite invisible object. Until it be understood that each surface, each object, as it comes before the lens, has, in its radiation of light from its different planes, actinicity of a measurable amount, and that these amounts are expressible in simple numbers, the problem of correct photographic exposure cannot be dealt with in a scientific and exact manner."



A CARNIVAL FAVORITE.—Tint Time, 8 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 4 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{2}$ second with U. S. 4.

A UNIT METHOD OF PHOTOGRAPHY

It is seen from the above that the definition of the new term, actinicity, is based upon the chemical power of light rays converging at a point; and, in being so based, is diametrically opposite, in theory, to that upon which is based the candlepower determination of a small light source, the latter considering a point which radiates light outward.

It seems quite logical to think of the sky above as a dome of atmospheric form, from every part of which light radiates, independently, upon each surface point that is presented upward to it. Leaving our instruments for the determination of candlepower, and going directly to nature, one realizes that light radiating outward from a small light source, to be returned from the different points or small areas making up every visible surface, go to a multiplicity of such surfaces of different colors and at different distances, making the exact amount of the actual work done practically undeterminable.

On the contrary, there is a sense of completeness in the assumption that each point of every visible surface about us is illuminated, and actinified as well, by the convergence upon it of light rays from the entire hemisphere of sky that may confront it.

Radiated light is dissipated and cannot be accounted for, converging light creates a definite effect, does a certain amount of work that can be observed and measured easily. In the production of photographic lenses, this theory of convergence has always been recognized and applied in the notation of the stops as related to the speed of the lens, stop f-16 for example, denoting the amount of



IN DUTCH COSTUME. -Tint Time, 4 seconds; Subject Factor, $\frac{1}{2}$. Exposure, 2 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{4}$ second with U. S. 1.

CAMERA CRAFT

convergence of the cone of light it admits to the plate, irrespective of the focal length of the lens. Every f-16 stop, used in the lens for which it is designed, admits the same cone of light, be its actual diameter what it may, varying in accordance to the different focal lengths of different lenses. This measurement of convergence, of cones, is the true and logical basis for the calculation of light value, and it is just as applicable to natural conditions of light in the open as it is to lens efficiency.

I will outline, as clearly and briefly as possible, my unit system. The stop or cone form, f-64, is taken as the unit, larger cones of light being designated by multiples of this unit as their volume or "solid angle" increases. In the following table will be found the unit value of the regularly used stops, showing their relation to the F and the U. S. systems of numbering:

Unit value	1	2	4	8	16	32	64	128	256
F. numbers	64	45	32	22.5	16	11.3	8	5.6	4
U. S. numbers	256	128	64	32	16	8	4	2	1

Adopting the unit system, one has but to understand that it numbers the lens stops in accordance with their actual working capacity, that is, No. 1 is a certain small stop having one-fourth the capacity of No. 4. This understood, no further explanation is required, problems of exposure being easily calculated according to our conceived idea of cause and effect. For example, if one man requires sixty-four minutes in which to do a certain amount of work, four men should do it in one-fourth of sixty-four minutes, or sixteen minutes. Such a problem being calculated in numbers as they are rationally used. One for one object, as one man or one minute; four for four men, sixty-four for sixty-four minutes, and so on. With the unit system of numbering stops it is the same; if stop No. 1 requires sixty-four seconds to do a certain amount of work, to make



MISS R.—Tint Time, 8 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 4 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{2}$ second with U. S. 4.

a correct exposure, stop four will do it in one-fourth of sixty-four, or sixteen seconds.

A UNIT METHOD OF PHOTOGRAPHY

So irrational are the present systems of numbering stops, despite their conforming in a measure to the theory of light convergence, that, in the U. S. system, the No. 4, instead of denoting, as numbers should, one-half the value of No. 8, denotes double that value. In the F system, four indicates, not one-half, but four times the value indicated by eight. Of course, these notations can be successfully used in practice if they are understood by the photographer. The trouble with them lies in their having to be especially explained, with the result that there are thousands of photographers who have no conception of the meaning of F values or of the U. S. system of stop numbering. What is quite generally understood is this: Each stop has double the power or efficiency of the next smaller one in the series; and so, in spite of the misleading numbers, they go directly to the values and make the exposures on the basis of halving them as they increase the size of the stop and doubling them as they reduce its size. The adoption of a simple unit scale would furnish an immediate solution of the problem, and furnish a system easily understood by all.



YOUTH AND BLOSSOMS.—Tint Time, 4 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 2 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{4}$ second with U. S. 4.

The actinic of surfaces is really the great problem in photography, that is, photography as an exact science. And yet, no serious effort has been made to unify that important factor. My own unit of actinic is called the "actino," a degree of actinic that will create a least visible tint on the emulsion of a dry plate or film, in one minute, working at a convergence of f-1, or four thousand and ninety-six cone units. In order to measure the actinic of a surface, a meter having an f-1 aperture must be constructed. Procure a small pasteboard box such as druggists use, and cut a circular hole in the lid, a hole having a diameter equal to the depth or thickness of the box. Opposite the center of this hole, cut another smaller and somewhat irregularly shaped hole, about a quarter of an inch in diameter, in the bottom of the box. From a Brownie sized roll of film, one containing no orthochromatizing dye, cut some

CAMERA CRAFT

small strips to be used under the smaller hole to receive the light acting through the larger aperture in the top of the box. This completes the meter.

Two conditions must be observed in measuring the actinicity of any given surface. The meter must be held a little nearer to the surface under consideration than the least width of such surface, so that the light from such surface will completely fill the f-1 angle of the meter. The area of the surface under consideration must be of uniform actinicity throughout; otherwise the result would be a registration of a number of different actinities instead of one only. In a very subdued light place a strip of the film against the bottom of the box so as to cover the small hole therein, meanwhile keeping a coin over the larger hole in the top. After backing the film strip with a piece of flexible black or opaque paper, hold the box in its correct position with regard to the surface



MISS R.—Tint Time, 8 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 4 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{2}$ second with U. S. 4.



MISS M.—Tint Time, 8 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 4 seconds with Speed Stop U. S. 32; Exposure given, $\frac{1}{2}$ second with U. S. 4.



MISS A.—Tint Time, 16 seconds; Subject Factor, $\frac{1}{2}$; Exposure given, 1 second with U. S. 4.

being measured; that is, so that the light from the surface will enter the large hole in the top of the box and act upon the film beneath the smaller hole in the bottom, when the coin is removed. Slide the coin aside and allow the light to enter the meter for a period of time that, by previous trials, may be thought to create a "least visible tint" on the exposed part of the strip of film. The time given should be one of the following intervals, intervals increasing in a progressive ratio, as one-fourth, one-half, one, two, four, eight, sixteen, thirty-two, and so on, seconds. Sixty-four seconds can be considered as interchangeable with one minute, the difference being negligible. These intervals preserve the geometrical progression and their divisions are sufficiently exact to fill all the requirements of correct exposure. As has been explained, should an exposure

A UNIT METHOD OF PHOTOGRAPHY



A CARNIVAL QUEEN —Tint Time, 32 seconds; Subject Factor, $\frac{1}{2}$; Exposure, 16 seconds with Speed Stop U. S. 32; Exposure given, 2 seconds with U. S. 4

of sixty-four seconds, or one minute, create a tint on the film, while thirty-two seconds fails to do so, the surface would be said to have one "actino" of actinicity. Should a test with the meter prove that a given surface reflects sufficient light to create a tint in two seconds instead of one minute, that surface's actinicity can be said to measure thirty-two "actinos," since it did the work in one thirty second of the time required for a unit actinicity to do it.

Should the reader wish to try out this system of light measurement, it will be found quite convenient to fasten the box, by means of glue or a little gummed paper, to the cover of a pocket notebook that is already fitted for

CAMERA CRAFT

measuring the light as directed in my "Complete Exposure Method and Home Portrait Helps," using the hole in the cover of the notebook for tinting the film instead of the one in the bottom of the box. In this case the hole in the bottom of the box should be larger than the one in the cover of the book, so as not to obstruct the light from the latter. The box can be painted or tinted black inside with ink, and the lid glued on. The tinting strips of film can then be placed under the hole in the book cover as advised for the printing-out paper and film strips in the original book method of measuring the light. In measuring very bright surfaces, such as the sky or a white house in full sunlight, it is advisable to use Solio or some like paper instead of the film, dividing the tinting time so found by eight, thus reducing it to the tint time for film, which latter tints in one-eighth the time of the former, and too fast for accurate timing when measuring very bright expanse of surface.

By this unit method, the sky, with high sun, measures five hundred and twelve actinos. The sun's own surface, when it is about thirty degrees high, and with the atmosphere clear, measures approximately sixteen million actinos. A white house, from the shady side but the day bright, will measure about one hundred and twenty-eight actinos. About three feet inside of an ordinary window, the face of a person of average complexion measures from four to sixteen actinos, and so on.

Having settled, with sufficient accuracy, the numerical designation of both the lens stops and the actinicity of surfaces, the speed of the various plate and film emulsions may then be indicated in time units. The speed time of any given emulsion is the time required to secure a correct or normal exposure, using unit stop one, upon a surface having one actino of actinicity; or, with unit conditions of stop and light power. For example, Cramer Crown plates, tested by this method, have a speed of four minutes.

A practical example will illustrate each step in the work. Suppose that it be desired to take a portrait by a window, using a Cramer Crown plate. The face, on measuring the light entering the meter from one of the setter's cheeks, is found to create the least visible tint on the film in four seconds. Sixty-four, the time for one unit actinicity, divided by four, indicates sixteen actinos for the face. It being known that, with the face measuring one actino, the exposure would be four minutes with the Cramer plate, using stop one of the unit system, it is plain that with the face measuring sixteen actinos the exposure will be one sixteenth of four minutes or sixteen seconds. Now, since sixteen seconds exposure would be required with the unit stop or stop one, stop sixteen would require one-sixteenth of sixteen seconds, or one second. Stop thirty-two, would require only one half second, and so on.

The manuscript of this book has been used for class work in the University of Pennsylvania for the last two years. A number of prominent scientists look upon the system inaugurated therein as being not only correct in theory but the first ever devised that was suitable for popular study of light and light action. It is, at the same time, a practical, physical solution of many of the problems met in photographic practice.

Fifth Annual Convention

The Inter-Mountain Photographers' Association

By LeRoy Kellogg, Secretary-Treasurer



The Inter-Mountain Association passed, April third to sixth inclusive, another milestone, one which marks the most successful convention it has yet held. Perhaps not the largest in the matter of numbers, but the most practical and business-like one. Every minute was occupied with something beneficial to the photographer.

President Dean delivered the welcome address, followed by a discussion, "What Brand of Brains Does the Successful Photographer Require?" After a lengthy debate, it was agreed that he must have a vast quantity of the afore-said brains of a quality sufficient to make him both an artist and a business man. In the evening the members, their wives and friends, enjoyed an instructive illustrated lecture on color photography, by Mr. Lawrence Ossen, of Denver Colorado, followed by two hours of social dancing.

Thursday morning was taken up with especially interesting lectures on "Success," by J. C. Abel and George Holliway. The afternoon was devoted to demonstrations by Harry Fell and assistants on the various products of the Eastman Kodak Company. It was well attended and was certainly one of the most instructive features of the convention. In the evening the members and their wives enjoyed an exquisite banquet at the Centennial Commercial Club.

Friday morning was devoted to a lecture on advertising, by J. C. Abel, of *Abel's Weekly*. Mr. Abel certainly has advertising principles down to a fine point. He was followed by George Holloway, with the best talk yet, his lecture on "Personality versus Individuality." Mr. Holloway illustrated his lecture with one hundred portraits of himself, made by as many prominent photographers of this country. He also demonstrated his practical method of judging prints, which is very good indeed. The afternoon was taken up by Mr. Whiteman with his splendid demonstration for the Anseo Company. This was followed by another lecture on business methods, by Mr. Abel; and, by special request, Mr. Ossen repeated his exhibition of color slides.

Saturday morning was entirely devoted to the election of officers for the ensuing year. J. F. Rabe, of Utah, was made President; LeRoy Kellogg, of Denver, Secretary Treasurer; and Vice-Presidents from the various States, as follows: Mrs. Girvy, Idaho; Mr. Patrick, Colorado; Mr. Galligar, Nevada; Mr. Jukes, Wyoming, and Mr. Christionsen, Utah.

The exhibits were not as numerous as last year, but the quality of work, as a whole, far excelled that of any previous convention. R. C. Nelson, of Hastings, Nebraska, was awarded the Prize Cup for the three best prints entered in the Grand Portrait Class. Frank Griffith, of Salt Lake, received Salon Honors.

The manufacturers and dealers represented were: Denver Photo Material Company, Salt Lake Photo Supply Company, Savage Supply Company, Utah Photo Material Company, Ossien Photo Supply Company, Hammer Dry Plate Company, Ansco Company, California Card Company; and, last but not least, the Eastman Kodak Company, represented by Harry Fell, the one convention man in a class of his own, always ready and willing to do all in his power to make a success of any convention. Both Mr. Rose, the Hammer man, and "Bill" Stuart, representing Seed plates, made themselves invaluable, not only with their suggestions, but with their assistance.

Secrets of Success

By LeRoy Kellogg, Secretary-Treasurer



An Address Before the Last Inter-Mountain Convention

In this day and age there is so much said about secrets of success. But really, these so-called secrets are simply principles, principles that were created in the beginning and that will continue through time. No truer statement was ever made than that. "There is nothing new under the sun." Neither you nor I can change these principles one iota. The beautiful thought is, that these principles are our inheritance, free as the air we breathe and is impossible of being monopolized by any one person. And he who adopts them is rewarded with success and eminence.

You ask, what are these success principles. The first and foremost is education along the line you wish to follow. Education alone is useless unless you adapt it to your business. And of almost equal value is perseverance. It is very easy to become discouraged, for, unfortunately, the photographer, like the musician, artist, or other professional man, has two distinct goals to which he aspires;—The professional and the financial. He is not like the banker or other commercial man, who has only the financial goal in view.

A merchant would be an absolute failure as a photographer until he adopted the principles of photographic success. The educator is a success as a teacher just to the extent to which he has adopted the ever-governing laws governing education. A man who adopts the laws cannot fail of success, for the minute he adopts them he is a success; success becomes a part of him, no handicap of origin or environment can keep him from it.

I know of a colored photographer in the South who, in spite of his race, gets the highest prices and the patronage of the best people in his city. It is not his personality; he has grasped the principles of success. So you can see there are really no secrets of success; simply these principles, our inheritance, given to us in the beginning by our Creator, and all we have to do is to apply them.



ONE OF THE SET OF THREE
WINNING PRIZE CUP GRAND PORTRAIT CLASS
FIFTH ANNUAL INTER-MOUNTAIN CONVENTION
BY R. C. NELSON, HASTINGS, NEBRASKA

Instantaneous Toning of Solio, Etc.

By David H. L. Wills



In spite of the perfection to which developing papers have been brought in the last few years, there are very many amateurs who prefer and almost exclusively use solio and other printing-out papers, P. O. P. as they are called by our friends across the ocean. The developing papers are widely advertised as "The Papers for Busy People," but my experience has taught me not to undertake to make even a few prints upon them unless I can see at least an hour free from interruption ahead of me; while, on the other hand, with printing-out paper I can see, in five minutes of early sunlight, every detail that is in the darkest shadows of my dried-over-night negatives. I can, also, using printing-out paper, fill several frames and leave them, in a rather shaded place of course, until I come home at evening, without fear of over-printing. With this paper I seem able to get more detail in the shadows than with any other paper, and if care is used in the selection of the surface upon which to squeegee the prints, —ferrotype metal, smooth plate, or coarse or fine ground glass,—the finish can be adjusted to almost any effect that may be desired.

For years the toning bath was a serious drawback, particularly the long preliminary washing, which, if not carefully and slowly done, was sure to leave spots and stains that spoiled many of my best prints. As a welcome relief from this, I used for three years the simple combined bath so long advocated by Dr. Nicol, of the old *American Amateur Photographer*. The results were quite satisfactory as to permanency, but I was never quite certain of obtaining just the tone I wanted.

About a year ago a formula came to me from Europe, one which, after some experimenting and modifications, has proved to be so thoroughly satisfactory in every respect to myself and to the many friends to whom I have given it, that I now lay it before CAMERA CRAFT readers with the utmost confidence in its convenience, its economy, and the beauty and permanency of its results. I can assure all who will faithfully try it a beautiful, rich, and always uniform tone, on Solio, within thirty seconds after leaving the printing frame; and, withal, absolute permanency. I have exposed prints to direct sunlight for three months, with one-half covered by black paper, and cannot now see the line between the covered and the uncovered parts.

For the professional it may be found expensive, in that it uses a little more gold than the old baths, but that need not be considered even by the most economically minded amateur. It is such a small percentage of his expense; and, as a matter of fact, it has cost me in the year I have used it exclusively considerably less than old bath did. Even with the combined bath, it is impossible to avoid waste; while with this, one need not waste one grain of gold in ten years. One pours from his four bottles of perfectly stable solutions, each

INSTANTANEOUS TONING OF SOLIO, ETC.



A BEND IN THE RIVER

By JOHN F. FENSEL

time just exactly sufficient, and no more, to tone four, ten or fifty prints, or as many as he has ready, using it to the last drop. There is no room for waste. That is economy itself. There are only four chemicals needed. They are cheap, and to be had from any stock dealer and in small quantities. They should be carefully dissolved in clean bottles and mixed in the proportion and order as follows:

A—Ten per cent solution of sulpho-cyanide of ammonium.

B—Fifteen grains chloride of gold in seven and one-half ounces water.

C—Ten per cent solution of phosphate of soda.

D—Saturated solution of borax.

To use, take in the following order:

A	1 dram
Water	8 drams
B	4 drams
C	1 dram
D	2 drams

There is no preliminary washing. Print just a shade deeper than you wish the finished prints to be, and put them direct from the frames into the prepared bath. They may, if desired, be kept a week or two in a dark place. They will, in the bath, turn at first red, but in less than thirty seconds they will change to a beautiful dark purple, almost black in the shadows, not changing further, even if left an hour or more in the bath. As soon as they reach a uniform color they may be thrown into a fixing bath, one ounce hypo to ten ounces water—or they may be put in clear water until all are toned and then

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fixed. Fix twenty minutes in a bath of one ounce hypo to ten ounces of water, being careful not to let them mat together too closely for the hypo to get in its work, but I have not found it necessary to keep them moving at all. Lastly, wash an hour in running water or give ten changes of water in about the same time. The prints may be hung up to dry or squeegeed onto ferrotype, glass or ground glass. If the parts are drams, as above, the aggregate two ounces will just tone ten 4x5 prints. The last few will take a little longer in reaching the full tone, and if more are put in, or if the chemicals are not pure, they will have a reddish tone, showing the bath is weak or exhausted. Make up a fresh lot. If you have only, say, four 4x5 or two 5x7 prints to tone, pour out only fifteen minims of sulpho-cyanide, one hundred and twenty minims water, sixty minims gold, etc., and the four drams will be just enough without waste. If, instead of immersing the prints, you can lay them, one at a time, upon a sheet of glass or back of an old negative, and swab them over lengthwise and crosswise with a wad of cotton or a brush, holding the corner of the plate over the graduate so you can use the drainings over and over until the uniform tone is reached. It is a peculiarity of this bath that, no matter how streaky the prints look at first, if you keep brushing them over, they will become entirely uniform in tone. It tones just so far and no further. This bath seems to give the print all the gold it can take, and it takes it and keeps it apparently for all time. One can easily make a little table from the above two examples which will enable him to pour off, each time, just enough and no more to tone the number he has ready. The four original solutions will keep indefinitely, but it is better to keep them in dark bottles or in a box away from the light and well corked. I have kept them for months without deterioration, but after mixing them together the bath must be used within an hour. If called away, throw it out and mix afresh upon returning.

I might remind the beginner that the easiest way to make a ten per cent solution is to first measure ten ounces of water, pour into a clean bottle and paste on a label so that the top edge just marks the height of the ten ounces. Then pour out half the water, put in the ounce of dry chemical; and, after it dissolves, fill up again with water to the ten-ounce mark. The next time it will not be necessary to measure at all. In the borax bottle one can always keep a saturated solution by adding water and borax, enough of the latter to keep undissolved crystals at the bottom, taking care to use pure borax, not that sold for laundry purposes. In buying the soda, ask for plain phosphate of soda, not the tribasic.

I have tried to avoid omitting anything of importance. So many formulas are published that leave something to be guessed at; but, if CAMERA CRAFT's proofreader follows copy, and CAMERA CRAFT's other readers will give this a fair trial, I feel very confident that this formula will become very popular all over the country.

Ideals are like stars; you will not succeed in touching them with your hands, but, like the sea-faring man on the desert of waters, you choose them as your guides, and following them, you reach your destiny.—CARL SCHURZ.

A Convenient Method for Some Subjects

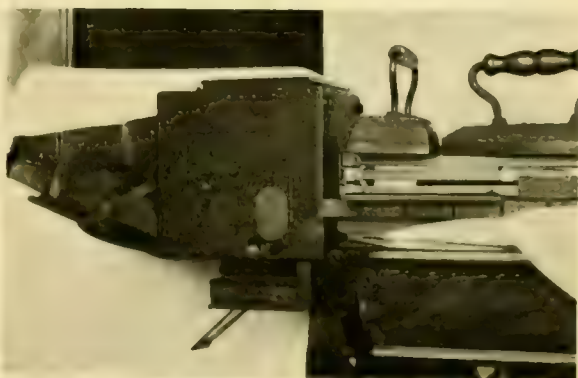
By V. A. Ulrich



Illustrated by the Author

With this I am sending three prints. The larger one is an enlargement from a negative made with a Graflex, employed as shown in the two smaller prints. With these prints before one, a description of the method of procedure need take but a few words. The plan is an excellent one for all kinds of copying at home, particularly on account of the even illumination that can be secured on the picture being copied. For delicate flowers that are very apt to droop and show motion during exposure, the method is especially fitted.

In an example like the one shown, the gray cardboard upon which the flowers are loosely arranged can be moved around until the image is properly adjusted on the focusing screen; and, should it be found too far from the lens, it is an easy matter to bring it to the desired distance by placing a small box, some books, or anything at hand and of the desired height, beneath. A possible improvement would be to arrange the flowers on a sheet of glass with the cardboard background a short distance below. This would result in the shadows giving



UPPER: CAMERA AND SUBJECT IN POSITION
LOWER: METHOD OF SUPPORTING CAMERA



PANSIES: PHOTOGRAPHED LYING FLAT AS DESCRIBED

the appearance of the flowers standing some distance in front of the background, not a bad effect when the flowers are arranged in a more compact form. Reflections from the surface of the glass would have to be avoided, should they make their appearance, by slightly shifting the position of the glass or the angle of the light.

Any library or dining-room table, heavy enough to be free from vibration, can be used to support the camera in the manner shown. The camera need not be a Graflex; it can be any camera the worker happens to have. Even a short bellows camera can be used if a supplementary copying lens or a portrait attachment be employed. If it is desired to use a ray filter, no special holder is required. It is only necessary to lay it flat on the back of the lens inside the front-board. Cardboard, in different shades, furnishes a wide variety of backgrounds, but cloth or other material that would ordinarily require a support or some means of stretching free from wrinkles can be used flat on the floor.

The picture of the pansies herewith is an enlargement from a trial exposure made to determine the exposure to be given an autochrome plate. The subject was on the floor in a good west light from two unscreened windows; time, 2 p. m. With a Cooke lens stopped down to $f-16$, an Isochrome eight times filter interposed behind it, sixty seconds was given on a Standard Orthonon plate. This exposure was equal to six and one-fourth seconds without the filter. One hundred times that would be six hundred and twenty-five seconds, or a little than ten and one-half minutes. An autochrome plate was then exposed on the same subject, giving it ten and one-half minutes.

AN INEXPENSIVE BINDING

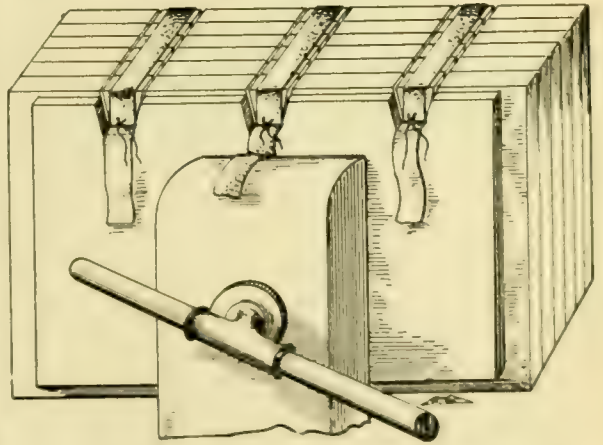
This method of working lends itself admirably to the making of color plates, the autochrome filter requiring no special support, as has been explained: while the solidity of the camera and the almost entire removal of liability of movement of the flowers during the long exposure gives a decided advantage. The importance of correct exposure and the cost of color plates make the exposing and developing of an ordinary plate advantageous and advisable as a means of establishing a guide to the correct exposure. It will be found that an autochrome requires about one hundred times the exposure necessary with an ordinary rapid dry plate of the speed of Seed 27. The exquisite beauty of a correctly exposed and finished color plate makes it well worth while to make the preliminary trial advised.

An Inexpensive Method of Binding

By A. C. Bevis



As each number is received and read, it is filed away until the twelve issues for the year are at hand. Then, when I have time, I remove the covers and the advertising pages, withdrawing the wire staples with a pair of pliers. Occasionally there is an extra sheet of two pages only that is loose, that is, does not form a fold at the back as does a four-page sheet, when the advertisements are removed. These are best given a narrow edging of paste to hold them securely to the bunch of pages, called a "signature," which they follow. A little dry glue will be found adhering to the back of each such signature. This is easily rubbed off with the fingers or with a dull knife or scraper, and its removal prevents the back being rough and too thick. This done, and the title index pages removed from the center of the last signature of the December issue and placed in front, all the signatures are placed in proper rotation and "joggled" up to get a straight back. They are next placed between two thin boards and clamped together, an edge of each board coming flush with the backs as shown in the illustration herewith.



The next operation is to make six saw cuts in the back, two near each end and two at the center, each two about an inch apart and each cut slightly slanting and about three-quarters of an inch deep. These wedge shaped pieces

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are broken from the two boards to allow the strings to tie only the magazines when it comes to tying the strips of canvas in place. These strips are cut from strong canvas and cut about the width of the bottom of the pair of saw cuts in the backs. They are laid across the backs as shown, and then, with strong, light, waxed linen thread pulled down into the saw cuts, each of the three strips is tied in place at the same time that the backs are tied together. In other words, a thread passed through one saw cut and drawn down to the bottom of the cut, coming around the end of the canvas strip on that side and back through the other saw cut that inclines towards it. This leaves the two ends on one side of the bunch of signatures where it is securely tied on the outside of the strip of canvas on that side, as shown on the nearer side in the illustration.

This done, the actual covers are a matter of one's individual taste and skill. One can, by examining any ordinary book, see just how easy the final part of the work becomes, once the leaves are secured in a solid, strong back with three strips of strong canvas on each side by which to attach the book to its covers. Two pieces of cardboard, some strong linen or canvas, and some good glue are all that is required. By using care and a little patience, one can have, in place of a lot of loose copies of their favorite photographic magazine, a book with a proper index, a book that is a pleasure and a convenience when one wishes to look up some article or bit of information in a back number of the magazine.



The Royal Exhibition

The fifty-seventh Annual Exhibition of the Royal Photographic Society will be held at the Gallery of the Royal Society of British Artists, Suffolk Street, Pall Mall, London, September second to twenty-first inclusive. As heretofore, there will be two sections, pictorial, and scientific and general. Entry blanks can be obtained by addressing The Honorable Secretary Royal Photographic Society, 35 Russell Square, London, W. C., England.

Aerial Photography



Modern methods and high efficiency are shown in many directions of endeavor at the present time, and photography, as applied to the commercial field, is no exception to the rule. This is graphically shown in the accompanying illustration which depicts an entirely new process, one which is destined to achieve notable results in commercial photographic work.

This picture shows the preliminary stage of taking an aerial picture. The gigantic tripod, shown in the foreground, towering far above the building, which is sixty feet high, is the tallest tripod in the world, being one hundred feet in height. This giant tripod, when the proper location is selected, and the angle guides have been set, is raised into place by means of a windlass, and the camera is then conveyed to the guides at the extreme top of the tripod. The shutter is connected with an electric battery, and by this means the operator makes the exposure from the ground.



This aerial, or to use the more common expression, bird's-eye photograph, which the picture shows as about to be taken, includes the entire plant of the Locomobile Company of America, at Bridgeport, Connecticut, a result not obtainable by any other process. The company whose process this is, Humphries & Rock, Bridgeport, Connecticut, have been most successful in the work they have done since evolving this up-to-date idea in photography.

We do not need higher education so much as we need a compelling force that will make us put into better practice the education we already have.—A. A. STEWART.

STEREOSCOPIC DEPARTMENT

Some Stereoscopic Hints

By James B. Warner

The following article is made up of advice offered by various members of the Stereoscopic Division of the International Photographic Association through the medium of the letter sheets accompanying the circulating sets, and have been gathered together by Mr. Wagner. There seems to be some difference of opinion as to the correct amount of separation that should exist between like points on the two elements that make up the stereoscopic slide. Aside from this variation, the advice given is all of the best, and well worth careful consideration. Should this meet the eye of some stereoscopic worker who can give convincing reasons for a particular amount of separation in the pictures, and he will set them forth in an article of not too great length, we will be pleased to give them publicity in these pages.—THE EDITOR.

A. says: It would be well to bear in mind these facts:

That the distance between like points or "centers" in the two main objects should not exceed two and three-quarter inches.

That the bases of the two prints should exactly correspond and be in line.

That the vertical boundary lines of the two pictures should not correspond; namely, that one element must contain at least one-quarter inch more of the subject on one side, and one-quarter inch less on the other, than its companion. Stereograms that exceed these dimensions will surely cause intense eye strain, and a large majority of people will be totally unable to view them with ease through the 'scope. These rules are followed generally by all stereo workers who make stereograms for the love of the art, and desire to produce perfect work.

B. says: It seems to me that most of us are working in the dark when it comes to cutting our stereo negatives or trimming our prints. Not many eyes can comfortably view a slide that is cut as close as two and three-quarter inches between centers. I think we should adopt a certain width as do the professional stereo makers, and all conform to it. This would give us all greater satisfaction in examining each other's work and would also add to the value of our individual collections of negatives. None of the professionals cut with less than three inches or more than three and one-fourth. Professional die cut paper is made from six to six and one-fourth inches wide for this reason.

C. says: Let me lay down a hard and fast rule in stereo operating. No matter what focal length of lens be used or of what angle it may be; no matter what distance the lenses may be from the object photographed, the same object in each element must occupy the same point in the negative with relation to the center of the element. This can only be accomplished with and by the use

SOME STEREOSCOPIC HINTS

of an adjustable front, one giving the operator the power to vary the amount of separation of his lenses. Let the operator draw out the outline of the two elements on the focusing screen and then draw a perpendicular line through the center of each. If then the operator will bring an object in the foreground of his picture to that position that brings the same point directly on this line in both elements, the resultant prints will 'scope perfectly. And they will 'scope at exactly the same point on the slide of the instrument no matter what the focal length or separation of lenses employed. I think that a number of workers are ignorant of this simple principle of stereoscopy; and, until they get it well grounded in their minds, and practice it in their work, we will continue to have "eye twisters" offered for inspection. Trimming a print will not make it 'scope perfectly if the two elements of the negative are not correctly made.

Few of the regular stock stereo cameras are equipped with adjustable separation, and for that reason many operators will read the above and find it hardly intelligible until they equip themselves, or rather, their cameras, with an adjustable separation for their lenses. The above rule or principle is not used by the greatest large commercial stereo makers; why, I do not know or care. I do know that proofs submitted to the big houses by myself have been admired and wondered at for their perfect 'scoping qualities.

D. says: If the two prints are joined, that is, printed at the same time on one sheet of paper, select some small, well defined object in the foreground and lay a straight-edge across the two so that the object will be equally cut in each print, and make the first long cut with the trimming knife. Take the right-hand print,—and here we face the important question of width. In the common form of stereoscope we cannot blend the two pictures into one illusion of solidity if they are mounted with a distance of more than three inches between the same objects in the two pictures. In fact, very few people can examine



IRIS

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prints mounted three inches apart, except by straining the eyes, and two and a half inches is a better separation. Thousands of stereograms have been put on the market which have been useless except to discourage people in the practice of stereoscopy. Select the part of the print that is desired for the picture, lay the cutting shape or mask over it and cut it out. Here we come to a "dodge." It might be supposed that the sides of the two pictures would be trimmed exactly alike, as was done with the base. But instead of this the left-hand print should have less of its left-hand margin, and more of its right-hand margin, than its companion print has. We term the special trimming of the sides of the left-hand picture a "dodge," for its object is merely to assist the illusion of different planes of depth, by making the mount appear as a frame through which the picture is seen. To understand this, stand at a window and look at the house across the street, or some other object. If you close the right eye and look with the left, you will see more of the right-hand of the view and less of the left, than if you look with the right eye. By trimming the prints in accordance with this rule, we appear to gaze on a vista through an opening. If the prints were trimmed in the opposite manner, the mount would recede from the picture, the view would appear as though mounted on a solid block, and the incongruity of seeing what should be an illusion of distance nearer than its mount would strongly tend to destroy any sense of correctness.

E. says: Don't snap your shutter at the first thing you see because it has stereoscopic relief. You are wasting your time, plates, paper and money. Strive for the artistic; sometimes a simple change of the point of view will make the difference between a picture and a record.

Don't use developing paper because it is easier. Use the paper that will give the most faithful representation of the picture as it appeared in the original.

Don't attempt to take a view which requires a quick shutter, unless your lens is suitable. Stereograms must be in sharp definition, and it takes a good lens to get a good negative of an object in the near foreground, in motion, while preserving the definition in the background.

Don't trim your prints with a different plane at the base of each element. They must be trimmed at the same level.

Don't mount your prints more than three inches apart on centers.

Don't fail to trim a trifle more off the right side of the right-hand element than from the left side of the left-hand element, as it gives the "window" effect.

Don't get in a rut. Take the advice of the critics and try for the best.

Don't pose your figures for a stereo. You would not do it for any other photograph.

Don't fail to apply the rules of composition to your stereos. Then you will get good ones.

Don't cut your figures in twain at the edge of a print. Get them in or leave them out.

Don't have trees or grass sticking up in the foreground, coming in at the sides, or overhanging unsupported from the top of a print.

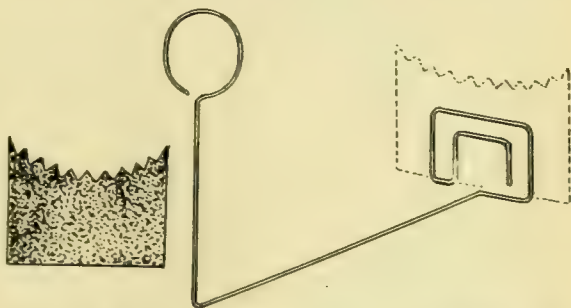
Don't imagine I am going to keep this up; I am not.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

A PRACTICAL VIGNETTER: Take a piece of heavy wire, one that is fairly stiff, and with a pair of pliers, bend it as shown in the illustration. It goes around the lens, then downward about six inches, next out in front of the lens about eight inches, and finally as shown, to form a clip for holding a sheet of cardboard about seven inches wide. This cardboard should be of a dark color, with one edge cut semi-circular and notched, as shown. The size of the wire and the other measurements will depend, of course, upon the size and focal length of the lens. If a heavy vignetting card is required, it may be necessary to use the portion that encircles the lens double in length, bending it back upon itself to get a firmer hold. This makes a cheap and efficient vignetter that any one can produce by the expenditure of a few minutes' time.—C. B. S., Illinois.

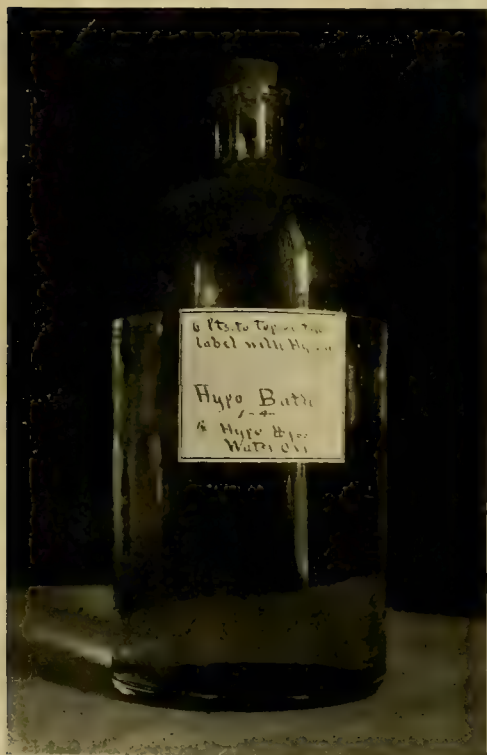


HOW I MADE A LENS CAP: An inveterate chewing-gum fiend, I usually possess a supply of empty Colgan's Violet Chip boxes, and having lost the lens cap for my Wollensack lens, used in a 4x5 Korona camera, I improvised one from one of these boxes in the following manner: First I cut a circular piece of black velvet to fit the bottom of the box. The aforesaid boxes, by the way, are enameled tin, one and one-fourth inches in diameter and five-eighths inch in depth. I then cut two strips of strawboard, the kind that comes in packages of print paper, the same width as the depth of the box, and of the proper length to exactly fit inside the rim; this in order to build it up, the inside circumference of the box being considerably greater than the outside measurement of the lens hood. Dampening the strips of strawboard to facilitate fitting them accurately, I fastened them, with Le Page's glue, firmly to the inside of the box and to each other. A strip of the velvet was then cut to fit inside the strawboard rim and glued fast, nap side out. When thoroughly dry, projecting edges were

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trimmed smoothly, and the top edge of the strawboard strips blackened with liquid shoe polish. The finished result made a neat-fitting lens cap and has served the purpose as well as a more expensive one from the shop would have done. To be sure, these gum boxes may not fit all lens barrels, but in such case the same idea can be worked out satisfactorily with a box or tube of another sort.—H. C. Ferris, Colorado, I. P. A. 897.

SELF-MEASURING BOTTLES: Hypo or other solutions are easily made up without the use of a graduate, once the bottles are properly prepared. Procure from your druggist as many large sized dispensing labels, gummed, as you



may need, and write out on each the name of a solution. The formula can also be placed thereon if you desire, as it will often be found convenient and a time saving. Suppose one is about to make up a solution, say, of hypo: Introduce the required amount of the chemical into the bottle and then measure in the proper quantity of water. Write on your label: "Six pints of water to top of this label when hypo is in." Place the bottle containing the solution on a level table and affix this label, so that the top coincides with the level of the solution inside. This will obviate the measuring out of the water in the future. One has but to put in the desired chemicals and then fill up to top of label with water. To prevent staining of labels on any bottle, always pour contents from the side of the neck opposite to that side of the bottle which carries the label.

—E. Stanley Thomas, Ohio.

AN ADJUSTABLE MASK: Take a piece of the black paper that comes around plates and cut a piece 7x10. Fold one end over on the other and glue together with a narrow strip of glue along the extreme ends. In this double sheet of black paper cut an opening, 3x5¼, or any size desired, the size given being right for post cards, the mask to be used in a 5x7 printing frame. Next cut a piece of black paper, a quite stiff kind being best, five inches long and about an inch wide. Place this in the fold of the mask and, by sliding it backward or forward, one can govern the length of the cut out opening so as to accommodate 4x5 negatives or cut off some part of the image from one end of the regular 3¼x5½ film. A like strip, only longer, can be used to cut off from the top or bottom; and if one will use a little larger mask and larger

PARAGRAPHS PHOTOGRAPHIC

printing frame, the sliding part can be cut L shaped so as to cut off both side and end at the same time, while always assuring a square corner.—Wayne Hill, Washington.

OPPORTUNITIES THAT ARE OVERLOOKED: The average amateur misses a great deal of the possible pleasure in photography when he places his camera on the shelf for the winter. Photographs made at night or in the evening are delightful and profitable. There are innumerable street scenes, street corners, buildings, porches, and things of that class that are capable of being rendered in an artistic manner. They will at least be unique and a few such in one's collection will add variety and interest. The best time is just after or during a fall of snow. Just break up the snow in the foreground and expose from ten minutes to half an hour, according to the amount of light and the stop, which last need not be a very small one. A backed plate is preferable, but an ordinary one answers very well, as per the example shown herewith. The plate was developed in a tank with pyro-soda, for thirty minutes. A developing paper of rough surface gives better results



A NIGHT PICTURE

than do the glossy and printing-out papers. Try a few such exposures the first snow storm you have.—Louis R. Murray, New York.

ORTHOCHROMATIC DEVELOPMENT: For exposures I have found the speed of f-16, Wynne meter, to be about correct, using either the Lumiere or Burk & James six times ray filter. I prefer the latter, as it seems to give better results. A fine developing stock solution is made as follows:

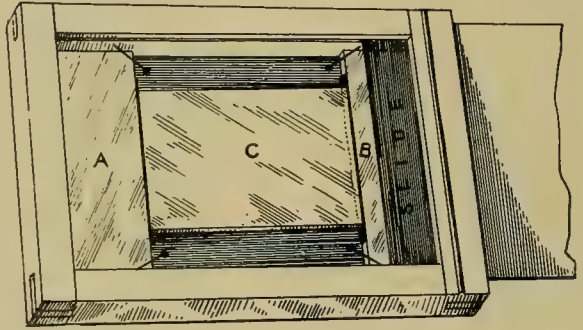
Acetone sulphite	205 grains
Edinol	150 grains
Hydroquinone	50 grains
Sodium sulphite (des.)	195 grains
Potassium bromide	23 grains
Potassium carbonate (des.)	25 drachms
Water to make	1 pint

Dissolve in above order. For use, take one part of above stock solution and five

CAMERA CRAFT

parts of water. Develop two and one-half minutes. If the view contains a predominance of green foliage and that color is desired to be made pronounced in the finished product, use the developer stronger by taking half stock solution and half water. This strength I find very effective in developing the Kodak Velvet Green Paper and Cards. The stock solution is very permanent if not exposed to air and heat. I have found it to retain its strength in cool weather for periods of four or more months.—E. Stanley Thomas, Ohio.

IMPROVISED KITS: I use a $6\frac{1}{2} \times 8\frac{1}{2}$ camera more than any other and frequently want to use a smaller plate therein in order to get the benefit of the larger lens that it is fitted with, a portrait on a small plate instead of in my film camera with its smaller lens. The camera uses holders with a spring at one end like the Premo. To use the smaller plates, I take an old $6\frac{1}{2} \times 8\frac{1}{2}$ negative and cut a couple of strips therefrom, six and one-half inches long and of the right width to make up the required length, the difference between the length of the smaller plate and the eight and one-half inches needed to fill the holder. One of



these pieces is put at one end of the holder and one at the other, with the smaller plate in between. The spring at the end of the holder presses down and holds all in place. In practice I put in four common pins, as shown in the sketch, to hold down the inner sides of the strips of old negative, putting in the smaller plate by pressing back the glass strip and spring as with the full-sized plate. It is well to glue a strip of cloth or felt along the edges of the old negative strips where they meet the smaller plate so that the latter will not be inclined to fall out or shift up and down, should the loaded holder have to be carried a little distance.—R. E. Stinson, California.

AN ECONOMICAL WAY OF DRY MOUNTING: No doubt all are more or less familiar with the adhesive properties of the white of an egg or albumen, but how many have tried it for mounting pictures? Take an egg and separate the white from the yolk, place in a saucer and beat up a little. Then take your prints and place them face down in a pile, and apply the white of the egg to the backs with the tips of your fingers, or a brush, preferably, as it gets very sticky. Then take your print and place in the exact position you wish it to be on the mount. Place two thicknesses of ordinary blotting paper on top of your print and smooth out with a flat iron just about as hot as you would iron clothes, first being sure that you have no wrinkles in your print. Do not endeavor to iron the prints without blotters over them, or ten chances to one you will spoil them. After this operation you have your prints mounted and "they are there to stay." The beauty of this is that they curl but little after mounting.—Harry A. Miller, Pennsylvania.

CAMERA CRAFT

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A Tendency To Be Avoided

The doctors tell us that a normal appetite is a good guide in the selection of that food which best serves the requirements of healthful living; but, they add, a normal appetite is rare, owing to the fact that most individuals have quite a number of acquired tastes for foods and condiments that they would not otherwise relish; tastes that have been acquired, all unintentionally perhaps, but misleading to the extent that they deviate from the normal. While not so grave a matter in its direct bearing upon the wellbeing of the individual, the danger of acquiring an abnormal taste in the matter of our photographic productions is as great. Like the former, it is unintentionally acquired and as unreliable as a guide.

In the old, wet plate days, and later in the early days of the dry plate, when orthochromatic emulsions were practically unknown, a sky was felt to be rightly represented only by white paper. We have gotten past that point, it is true, but abnormalities are still constantly accepted without question, and accepted most readily by the very ones who should know best through observation that would seemingly be unavoidable in the repeated use of the camera as a means of reproduction. How prone one is to accept shadows represented by inky blackness, devoid of all detail. They are usually so in the photograph that is not made with some regard for the danger, and the photographer gradually learns to accept them that way. But ask this photographer to go out and find a shadow that is as black as it is represented on the print with which he finds no fault. Only the mouth of a deep cave, and that close at hand, will give him a black in nature that approaches the black of his print. If one wants to determine just how few shadows are entirely lacking in detail, he has but to use his eyes. Moonlight shadows may be rather dark when they fall across some dark object, but one who has not previously given the matter attention will be surprised at the amount of detail that can be plainly seen in even moonlight shadows.

Take another instance in which the photograph is inclined to falsify values, the portrayal of distant hills, particularly low, wooded ones on the opposite bank of a lake. These may come out as clear glass in the negative and be reproduced as of inky blackness in the print, without appearing at all wrong to the photographer. And yet had he but observed these same hills at the time the exposure was made, or at any other time, he would have found that they are of an entirely different shade. And this tendency to overlook falsity, if not to

CAMERA CRAFT

feel entirely satisfied with it, is not confined to the worker afield. Take an ordinary portrait as an example and endeavor to find a face so lighted that portions of the flesh are as white as the white collar below, while other portions are so dark that no texture can be distinguished by the eye. The task will be a difficult one except as one might have a strong search-light that could be employed as an illuminant.

It would be well if the worker who desires to restore his taste to the normal, in the matter of his photographic productions, would give a little study to the real tone values of the objects around him. He will find that a real black is very rare. At a distance of but a few feet a black painted surface loses much of its blackness on account of the intervening atmosphere. He should ask himself if the sky is ever white and answer the question by a few observations. It is true, the sky, being a source of light in itself, excites the eye more strongly than does an expanse of white that can only reflect light from some outside source. There is really some excuse for a white sky, because white is the nearest approach the photographer can make to the intensity of the sky. But it is questionable if the slight gain in intensity is worth the loss of color, as against a white paper and a slightly tinted surface in the photograph.

What has been written above is only suggestive of the value of a little effort to counteract a tendency to accept that which is false. Nothing has been said about the apparent distortion of wide-angle lenses; nothing about the representation of blue as light and yellow as dark; nothing about the representation of objects in motion, and nothing about various other opportunities for variations from the truthful delineation of what the eye sees. Absolutely correct rendition of tone and texture is hardly possible and might not be more than occasionally desirable if obtainable. But the worker should guard his judgment against the tendency to accept too trustingly the productions of his camera. And doing so he will improve the character of his work.

The London Salon

We have received a package containing prospectus and entry forms for the Third London Salon of Photography to be held in September. These we will be pleased to furnish pictorial workers desirous of submitting pictures and wishing to avoid the delay of sending abroad, although the Secretary, Bertram Park, will be pleased to send copies upon request. The address is given in the following quotation from his letter before us:

"The exhibition held in London last year, as you may know, was a notable success in every way, and the committee have again engaged the fine Galleries of the Royal Society of Painters in Water Colours, 5a. Pall Mall East, where the exhibition will be held from September seventh to October nineteenth.

A Correction

On page 218 of the last issue, Mr. Blackburn, in advising the use of Rodinal, is made to say: "two ounces of the developer to eight ounces of water." This should read: "two drachms of the developer to eight ounces of water."

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

A New Method of Color Photography

During the past month the usual periodical screed about a new and wonderful color process has appeared in the lay press, and this time with something of a foundation. We have, in fact, a new and scientifically entirely successful process of reproducing objects in natural color. It is, however, much behind the Lumière method in matter of exposure, and does not admit of transference to paper. These are possibilities of the future, and the opening up of a new line of advance is a matter of congratulation. The following account, from the pages of the *Amateur Photographer*, gives a good epitome of the principles and practice of the new method:

The days of the autochrome boom were recalled by the crowded house of the Royal Photographic Society the other evening, when a demonstration of color photography, which the president described as epoch-making, was given by the brothers Rheinberg. The micro-spectra method of obtaining color records by prismatic dispersion is not new, in theory, at least, but the credit for working out a practical system must now be given to these gentlemen. Briefly, the method is a purely optical one, and color records are obtained with a single panchromatic plate at a single exposure, and without the intervention of any color screens or colored particles whatever. A plain black and white negative is taken, an ordinary black and white positive is made from it, and by the microspectra method a picture in its natural colors is faithfully reproduced. Like a certain system of furnishing, it is "so simple."

At least four inventors have, metaphorically, strewn their bones on this particular trail, and the well-known interference method of Lippmann accomplishes a great deal in the direction indicated. It seems to have been left for the Rheinbergs, however, to carry into practice what has hitherto been more or less in the realm of theory. Mr. Ernest Rheinberg has been for several years a member of

the Royal Photographic Society, and his brother, Mr. Julius Rheinberg, is well known among microscopists for the developments he has made along that line of investigation, and his name stands high in the world of science as an accomplished mathematician.

It is not to be concluded that because this process has been demonstrated to be practical it will, therefore, be popular in the same sense as the screen-plate methods of color photography are popular. It necessitates a special and costly camera, and not only is this camera essential to the making of the pictures, but also to the viewing of them. Unless, indeed, a rapid bleach-out paper correctly sensitive to the spectrum colors be obtained, the process will have few commercial pretensions, and none are made on its behalf. But, scientifically, its value is very great, and, once having got the outfit, which cannot be other than complicated, it becomes the simplest of all methods of color photography, and, theoretically, the most perfect.

The results the other evening were shown to individual members of the audience by a direct inspection of the positive in the camera, and to the meeting generally by projection on an aluminium powder screen. They evoked the highest commendation, and possessed a peculiar silk-like sheen of lustre which might have been thought to have been due to the metallic nature of the screen in question had the effect not persisted when the pictures were viewed in camera. What, then, is the underlying principle of the microspectra method of color photography? It is a method which is based upon the production by optical means of a surface composed of hundreds of complete but very narrow spectra lying next to one another. The spectra are so close together that to the unaided eye, at the distance of normal vision, the individual colors are indistinguishable, so that the surface appears white. Such a surface is produced by allowing white light to fall upon a line screen, having opaque lines which are broader than the clear interspaces, and form-

CAMERA CRAFT

ing an image of this screen by means of a lens having a prism in front of it. Each of the clear interspaces is thus spread out into a complete spectrum, the width of which is dependent on the dispersion of the prism.

This surface, being composed of a regular repeating series of all the spectrum colors, can be made to appear in any hue when viewed through a mask which will block out or weaken colors not wanted, and allow the colors composing that particular hue to pass through in their correct intensity. The photographic positive serves as the mask for this purpose. It is nothing more than an ordinary black and white lantern slide of the color object photographed, and this, when laid upon the apparently white surface, which in reality, corresponds to the spectrum surface, cuts off the unwanted colors, and allows to pass in due proportion the colors which are required.

The photograph of any colored object is taken by projecting its image on to the line screen with an ordinary objective lens. The line screen, with the coincident images, is focussed on to the photographic plate by a second objective, with the analysing prism in front of it. The plate has to be equally sensitive to all the spectrum colors, so that the negative will be completely darkened when acted upon by any color in its full intensity, and partially darkened where the incident color is weakened. A lantern-slide positive from this negative will, of course, show the reverse effect of complete or partial transparency, instead of darkening, and, therefore, acting as the desired mask, it appears in the actual colors of the object photographed when it is superposed upon the surface consisting of contiguous whitelight spectra. This effect is obtained by passing white light into the camera, and placing the positive in the exact position previously occupied by the negative.

It would carry us far afield to describe the construction of the micro-spectra camera. The two objectives are seventy-five mm. Zeiss micro-planars, f-4.5. The grating, each space of which is spread into a spectrum when viewing the positive transparency, has three hundred and seventy-two lines per inch, and the prism is one having a "rational" or normal spectrum. The Ilford panchromatic plate is employed, and in order to damp its sensitiveness for certain colors, a compensating filter consisting of a weak

solution of chrysoïdin is introduced. The plates for the positives need only be of fine grain, and give as much gradation as possible, and a good black one. The basis of exposure is from twenty-five to thirty seconds in sunlight in summer for open-air subjects. Negatives with plenty of detail yield the best results. Development is carried out with rodinal.

In viewing the results, the grating is illuminated with white light, usually from an arc lamp, so that the spectra are projected on to the positive, and are, in fact, seen through the positive. Or the pictures are projected by arc light on a screen, and although they consist of lines in the actual color of the objects separated by wider dark lines, yet, viewed at the proper distance, the lines fuse, and are not separately distinguishable.

Moderate telephotography is said to be possible with this arrangement, and it can also be used, in conjunction with a microscope attachment, for photomicrography, chiefly for subjects such as polarised light effects, in which color differentiation is a main feature. Further developments seem to depend largely upon an increase of speed in panchromatic plates, and on an increased sensitiveness in such plates to red, providing this can be secured without loss of speed, and without any impairment of their present color sensitiveness to the remainder of the spectrum.

Blocking Out Skies

The customary way of blocking out a sky is to go round the outline of the landscape with a brush and opaque color and fill up the remaining portion with the same. Too frequently the result of this method is a crude outline that bears most evident traces of a trespassing brush. To take a brush and opaque color along a distant horizon is to destroy at once all sense of aerial perspective. Whenever it is possible to do so the sky should be blocked out on the reverse side of the negative, and if a distant horizon is being dealt with the medium should be gradated towards it so that no decisive line of separation may be apparent. The following method enables this to be done very quickly, and is a method of blocking out skies that I prefer to any other, as there is no evidence of it in the finished print.

Prepare a mixture of quick drying gold

A PHOTOGRAPHIC DIGEST

size and turpentine, roughly, two parts of gold size to one of turpentine, but the amount of the latter requires adjusting to the quality of the gold size. The mixture should flow like thin collodion. If necessary, filter, or decant after standing several days. Thoroughly clean the reverse side of the negative and flow the vehicle over the sky portion, taking every care to overlap the junction of sky and landscape. With practice it is astonishing how closely the outline of the landscape can be followed with the vehicle, but if it encroaches quite considerably on the landscape side the only inconvenience is a little extra work later on.

As the negatives are coated they are placed in racks to drain, not too close together, and if the gold size is good, and the proportions of it and turpentine suitable, in a couple of hours or so the vehicle will have become quite tacky; when touched with the tip of the finger it should just take an impression without coming off on the finger. On the degree of the tackiness the success of the operation depends, and only experience can decide this point.

Take the negative in the left hand, with the sky portion towards the body of the operator, and well illuminated by transmitted light, either from a mirror or sheet of white cardboard set at an angle. With the right hand take a fair-sized tuft of cotton wool dipped in fine electrotypers' plumbago and draw it gently across the sky at the zenith. The plumbago will adhere to the vehicle and give perfect opacity. Keep the cotton wool well charged with the plumbago and gradually vignette upwards towards the horizon, until on reaching it the sky has been blocked out except just at the juncture, where one has been vignetted imperceptibly into the other.

With many subjects, where trees and buildings project into the sky it is neither possible nor necessary to work so circumspectly, but the leading may be carried right up to and just over the obtruding objects and afterwards removed in a manner to be explained. All the negatives having been treated they are now carefully baked before a slow fire for several hours to drive off the turpentine and harden the gold size. When the baking has effected its purpose a hard film of plumbago remains that will stand years of fair usage.

Those negatives in which the outline remains untouched need nothing further done to them, but where the lead has encroached on the landscape this needs removing.

The above method is part of an excellent article by G. T. Harris, in the *British Journal of Photography* on improving the negative for commercial work, but it is equally applicable to pictorial photography of any kind.

Line Drawings From Prints on Bromide or Printing-Out Paper

We are frequently asked for the method of making line drawings in pen and ink from photographic prints that we again publish the details for the benefit of many readers. The following solutions will bleach out the photographic image after the subject has been outlined in waterproof Indian ink:

Thio-carbamide	120 grains
Nitric acid	2 drams
Water	10 ounces

Another formula, which also serves as a powerful reducer for negatives, is iodine solution:

Saturated sol. iodine in alcohol.	2 drams
Saturated sol. potass. cyanide in	
water	3 drams

This will remove the image instantly. The action can be rendered slower by adding water. This solution is very poisonous.

A reliable waterproof ink, specially suitable for the process, can be made as follows:

Hot water	20 ounces
Borax	1 ounce
Shellac	5 ounces

Dissolve the borax first, and then add the shellac, boiling the mixture until the shellac is all dissolved. Then cool and pass it through filtering paper. This solution is then used as a solvent for rubbing up ordinary Indian ink. The photographic image can be readily removed by damping the print and laying it upon the bottom of a clean porcelain tray or a sheet of glass, and pouring over its surface a sufficiency of either of the above reducing solutions.—*Amateur Photography*

Copying Paintings In Galleries

Perhaps the chief trouble of picture gallery work, writes A. J. Bull, in the *March Photo-Engravers' Monthly*, is the reflecting of the gilt frames on the opposite wall and other light objects by the protecting glass. In some of our principal galleries the glasses are held in by small bolts and can be removed if permission be obtained. When this is not pos-

sible, then much may be done by covering up windows and light objects with black cloths, but an effective way of avoiding reflections is to have a large black cloth that can be placed immediately in front of the camera. This should be sufficiently large to prevent any reflections showing in the glass from the position of the lens. A portable frame for this purpose may be made from a bamboo lantern screen, or it may often be extemporized, as, for instance, by standing a tall step-ladder over the camera, lashing a pole across the top, and hanging a black cloth from this. A slit should be cut in the cloth and loosely laced together with black cord so that the lens can look through a small opening. The arrangement usually increases the exposure, as it cuts off some of the light. When the picture is high up, the difficulty is greatly increased by the necessity of building a scaffolding up to the requisite height. For work of this class the lens should be in a black mount, not in bright brass, because this is apt to show even when it is surrounded by a black cloth. The high polish and lacquered brass fittings so often seen on well-made cameras are certainly of no practical advantage to the photographer, and it is now possible to procure high-class lenses and cameras with a dull black finish.—*British Journal of Photography*.

Brown Tones by Development on Gaslight Papers

Dr. E. W. Büchner, in a note in *Photographische Rundschau*, refers to the property of pyrocatechin developer, used without sulphite, to give a warm brown tone on gaslight papers. The result is similar to that on colodio-chloride papers toned with platinum. The pyrocatechin developer consists of a ten per cent solution in water, to which is then added ten per cent soda carbonate solution. Potass carbonate should not be used, as the tone with it is more like the ordinary black color obtained with metol-hydroquinone developer. A longer exposure should be given. The one drawback to this method is that with some gaslight papers the developer without sulphite colors the paper support a brownish tint. An acid fixing bath is not sufficient to discharge this. It is necessary, after thorough washing from hypo, to pass prints into a very weak permanganate bath and then direct into a weak solution of bisulphite. As this slightly

reduces the prints they should be developed to a little over full strength in the first instance.

White of Egg for Mounting by Hot Pressure

The use of albumen (ordinary white of egg) for the efficient mounting of prints is recommended in the *Photo Revue* by M. D. Bernard, who directs its use as follows: The back of the print is gone over with the finger (better than a brush) dipped in white of egg, and then laid at once on the mount. To fix it firmly it is then hot-pressed at a temperature of from one hundred and ninety to two hundred and twelve degrees Fahrenheit—that is to say, as hot as the print will stand. This immediately coagulates the albumen, which thus firmly fixes the print to the mount. Damp the albumen, which thus firmly fixes the print to the mount. Damp has no effect upon this adhesive.—*British Journal of Photography*.

Shorter Exposure Time For Autochromes

M. L. Benoist published some time ago an observation to the effect that if the protecting card placed next the autochrome plate be white instead of the usual black, the exposure time would be shortened. Recently he has experimentally investigated the whole subject and given the results in a paper to the Societe Francaise de Photographie. He first demonstrated that the presence of a reflecting surface behind the film did not lead to loss of truth in drawing or color. Of the various surfaces tested, metallic papers, matt and glossy white paper, he gave the preference to the latter and found that with a piece of this interposed between the plate and protecting card, the exposure can be reduced one-third. This is a valuable saving, especially in indoor portraiture, where a reduction of thirty seconds to twenty is of no small importance. I find no mention of mirror glass: it might be worth trying.

Discolored Platinum Prints

Platinum prints and engravings that have become discolored or yellowed by age may be brightened and restored by soaking in a weak solution of hypochloride of lime. This in answer to a correspondent who has a number of old engravings that he is trying to copy, but finds yellow spots, just visible to the eye, come out quite dark in his copies.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

The Picture Space

A subject that does not get the attention that it requires is used as a title for this paragraph. The picture space is the space enclosed within the four lines that form the edges of the print, or the space enclosed by the one line forming the ellipse or circle sometimes used as a trimming form. To judge from the advice so persistently given the beginner, the right way to get a good composition is to take a picture of everything before the camera and then trim, trim, trim. Of course, it is not eminently practical for one to say that the four sides of his focusing screen or finder enclose his picture space, and then insist upon making every composition fill this space and fill it completely without crowding. It might be done with a fair degree of success if one were willing to pass any picture that did not comply with the requirements, but a better plan would be to admit the possibility of trimming from top or bottom or from one side or the other where the subject seemed to require a little different form.

But the proper distribution of the subject matter being photographed within the confines of the edges of the focusing screen is not so hard a problem as one may think. Neither does it require any great amount of artistic ability. It is, in the main, simply a matter of good common sense, a matter of being logical, consistent, reasonable. A picture is nothing more than some scene or subject pleasing to the eye that is cut off from surrounding objects by the frame or other device. It is, in fact, practically a scene or subject viewed through a small opening or window. Let us suppose one is looking through a small window into a room. The tendency is to come close to the window in order to see a larger part of the room, and this makes the view a wide angle one. If the window be the same size as the plate the distance between the eye and the opening is the focal length of the lens that would reproduce that part of the

room seen through the opening, and reproduce it on a plate of the same size as the opening. If one is asked to observe a distant mountain through a window, and the mountain alone is satisfying and complete, there is no tendency to come close to the window as long as the entire mountain can be seen from the position first taken. This explains the better adaption of a long focus lens to such views. And this comparison of a window to the picture space will help in a lot of other cases. In looking out of a window at a ship or other object moving across the field of view, the tendency is to so change the position of the head that a good part of the unoccupied space is kept in front of the object, until one has lost interest therein, when it, the moving object, is allowed to find its way out of the view on that side. Consequently, it is well to do the same in locating any moving object in the picture space by always having more room in front than behind. This also explains why a violation of the rule gives an unsatisfactory impression of the moving object.

Take a picture that looks too crowded, a horse, for example, with the figure nearly filling the space. If one were looking at this horse through a small window, he would be tempted to move the head nearer to the opening in order that any movement the animal might make would be observable, in order that he might determine what the horse was doing, whether tied or being held. The same holds good in the case of a man bending over. In observing him one would naturally so place the eye in relation to the window that the man could straighten up without raising his head and shoulders out of the view. And a picture of such a man should be arranged in the same way with enough space above to permit of his coming to an upright position. On the other hand, were the man near the window or opening, on the other side of course, and quite close as if engaged in conversation

CAMERA CRAFT

with the beholder, there would be no desire to see other than his face. The sides of the opening might cut his hat or the back of his head from view, and yet be perfectly satisfactory. This explains why some of the portraits so trimmed are not objectionable. It is simply a matter of being consistent with the situation.

It is evident that in taking a small portion of a view spread out before the camera, some care must be exercised to so select such portion that the one who sees the picture will not be too conscious of the limitations imposed by the four sides of the picture space. If one will study the pictures in an art gallery, or even the work of the illustrators of our popular magazines, he will find that there is never any feeling that the boundaries of the picture space cut off any desired view. Our photographic pictures should do the same. This means getting the necessary features within the picture space and keeping out those features that add nothing to the interest. This is what is done in following the advice to trim, trim, trim. This trimming can all be done on the focusing screen or finder, by moving away or going closer to the view; or, when that is not possible, the substitution of a lens of different focal length as the image is desired larger or smaller. It is merely the work of arranging the view as one would change the position of his head in order to get the most pleasing view through our imaginary window; as one would do almost unconsciously. There is, however, still another feature that calls attention to the boundaries imposed by the sides of our picture space, and does it still more in a photograph than in any other form of pictorial work. I refer to a distinctive line formed by a sharp contrast between some light and some dark portion of the view. In looking at a picture the eye is strongly attracted to the point containing the strongest contrast. If this region of sharp contrast be extended to form a line, the eye shows a marked inclination to follow that line. If this line runs to the edge of the picture and forms an abrupt, or nearly so, angle therewith, the eye is brought to a stop, and the limitation imposed by the edge of the print at once becomes objectional. Such a line is often formed by the

contrast of a river's bank with its waters, and when this line is fairly straight and strong, it should be robbed of its power for harm by having the contrast reduced as it nears the edge of the print. The tone of the water can be lowered by manipulation in printing or work upon the negative; or, in taking the picture, the potency of the line may be destroyed by breaking it up with foreground objects when arranging the view.

Being Business-Like

There is one professional in this town who turned over a new leaf the first of the year, and it has been a most profitable turning at that. He simply made up his mind that he would give his collections the same care that any other business man gave. Every piece of work that goes out of his place during the day without being paid for is followed by a bill that is made out and mailed the same evening. The first of the month a statement is mailed, and if that does not bring the money a collector is sent after the amount the next collection day. He admits that his fears that a few customers would take offense at his insistence have partially come true, but where he has lost one slow pay customer he has earned the good opinion of several others who were surprised to find a photographer capable of doing business in a business-like manner. It is true that most of these accounts are small ones, and it would not pay to employ a high priced collector. But the office boy makes as good a collector as is necessary for such small amounts, and he really looks more in harmony with the errand than would an older person. It is not a hard matter to keep a small box of index cards from which to make out the statements, and later from which to send out the boy with request for payment. The moment a charge is made, a card is made out, and that evening a bill. All the cards are sent a statement the first of the month, a division card put in, and all new charge cards placed ahead. Cards that hold over to the second month without being paid are gone after a second time, and then either dropped or more urgent demand made, according to the amount involved. The photographer in question is now discounting his stock house bills for the first time in a number of years, and hopes to continue doing so.

OUR BOOK SHELVES

"The Battle of Baseball"

All photographers are "fans," with a few exceptions, and those few exceptions, even if they do not understand the fine points of the game, have a keen appreciation of good baseball pictures, the kind that show spirited action, and what kind of pictures can show more? And the new book the Century Company has gotten out, a book with the title used at the head of this, is full of reproductions of the finest examples of speed photography that it has ever been our good fortune to see. These pictures, as well as the text, are by our well known photographic expert and writer, C. H. Claudy, a gentleman who needs no introduction to our readers. The text is really the strong part of the book, showing as it does Mr. Claudy's close study of the game, his familiarity with all the fine points of "inside" ball, his knowledge of the strategy employed, and his close association with present day baseball in all its detail. The book is one that will delight any baseball fanatic or photographic crank; doubly so, the individual who happens to be both. Published by The Century Company, New York. Price one dollar and fifty cents net, postage twelve cents extra.

"How To Make Good Pictures"

The above is the title of a new book from the press of the Eastman Kodak Company, Rochester, New York. It will be found at all the dealers throughout the country, and should be in the hands of every camera user in the country. It contains over one hundred and fifty pages, and we should judge, almost as many handsome illustrations. It certainly covers the field of amateur photography, the section devoted to home photography being particularly full, clear, exhaustive and well illustrated both with examples and diagrams. The price is seventy-five cents, and the book is worth as many dollars to the worker who wants to make good pictures. If your dealer does not have it, or if there is no dealer

near at hand, copies can no doubt be obtained direct from the Eastman Kodak Company, Rochester, New York, upon receipt of the price. And none of our readers need have the least doubt about the book being excellent value, or feel any necessity of seeing it before buying.

"The First Book of Photography"

The above is the title of a book just off the press, a handsome little book, well bound and well illustrated. As to the text, it is only necessary for our readers to know that it is from the pen of C. H. Claudy, the well known writer on photography, frequently a contributor to our own pages. In addition to living up to its title, the book provides many hints and suggestions that would be of great value to many amateurs who consider themselves well past the beginner stage. The book is published by McBride, Nast & Company, 311 East Seventeenth Street, New York. The price is seventy-five cents; postage, eight cents.

"Flashlight Portraiture"

The fourth of the "Big Six Series" of practical photographic manuals has the above title. The book is eminently practical and helpful, well illustrated with both diagrams and halftones, the former showing just how the results are achieved and the latter the actual results. Flashlight work is becoming so popular with both amateurs and professionals, particularly in the field of home portraiture, that this book will find a large sale. It can be secured of all dealers, price twenty-five cents, or direct from the publishers, Tennant & Ward, 122 East Twenty-fifth Street, New York.

Reported By William Wolff

L. A. Gregory, of Medford, is doing some fine panoramic work in that section.

Charles Boussum, of 26 Kearny Street, has opened a branch on Kay Street, Sacramento.

Inez Fitzgerald, formerly of Gilroy, is now located at Grants Pass.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Harry Gordon Wilson, Director Stereoscopic Division, 4954 Washington Ave., Chicago, Ill.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthroppe, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

FOREIGN SECRETARIES.

French—Charles A. Wagny, 247 Torrence St., Punxsutawney, Pa., U. S. A.

German—George N. Baumiller, Nutwood, Ohio.

ALBUM DIRECTORS.

Alabama—Richard Hines, Jr., 155 State St., Mobile.

Alaska—P. S. Hunt, Valdez.

California—Sigismund Blumann, 3159 Davis St., Fruitvale, Cal.

Colorado—O. E. Aultman, 106 E. Main St., Trinidad.

Connecticut—George E. Moulthroppe, Bristol.

Florida—Capt. E. S. Coutant, U. S. Life-Saving Service, Oak Hill.

Georgia—L. O. Surles, 231 E. Pine St., Atlanta.

Idaho—Eugene Clifford, Weippe.

Illinois—George A. Price, 1102 West Main St., Urbana.

Indiana—H. E. Bishop, 1706 College Ave., Indianapolis.

Iowa—C. E. Moore, Eddyville.

Kansas—H. E. High, Box 72, Ellsworth.

Maryland—E. G. Hooper, 218 East 20th St., Baltimore.

Massachusetts—John Mardon, 161 Summer St., Boston.

Michigan—W. E. Ziegenfuss, M. D., 327 West Hancock Ave., Detroit.

Minnesota—Leonard A. Williams, St. Cloud.

Mississippi—Emory W. Ross, Institute Rural Station, Edwards.

Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.

Nebraska—Miss Lou P. Tillotson, 1305 South 32d St., Omaha.

New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.

New York—Louis R. Murray, 17 Hasbrouck St., Ogdensburg.

New Jersey—Burton H. Allbee, 103 Union St., Hackensack.

North Dakota—Jas. A. Van Kleeck, 619 Second Ave. North, Fargo.

Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.

Pennsylvania—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.

South Dakota—C. B. Bolles, L. B. 351, Aberdeen.

Texas—Emmett L. Lovett, Stamford.

Utah—John C. Swenson, A. B., Provo.

West Virginia—William E. Monroe, Box 298, Point Pleasant.

STATE SECRETARIES.

Answers to inquiries concerning membership and membership blanks will be supplied by the State secretaries. Album directors are at present acting as State secretaries in such of their respective States as have as yet no secretaries.

California—W. E. Thomson, 3540 School St., Fruitvale, Oakland.

Idaho—Eugene Clifford, Weippe.

Indiana—R. A. Underwood, 912 E. 15th St., Indianapolis.

Kansas—H. H. Gill, Hays City.

Mississippi—Joe C. Montgomery, R. F. D. No. 1, Box 36, Edwards.

Missouri—J. F. Peters, 6220 Berthold Ave., St. Louis.

New York—Louis R. Murray, Ogdensburg.

Oregon—F. L. Derby, La Fayette.

Wisconsin—F. W. Freitag, 500 Monument Square, Racine.

NEW MEMBERS

3327—John A. Maul, R. F. D. No. 1, Flevna, Kans.

3¼x5½, developing and printing-out papers, of general subjects; for anything interesting. Post cards only. Class 1.

3328—K. G. Nelson, 705 W. Ave. South, La Crosse, Wis.

5x7, 4x5, and stereos, developing paper, of scenery and mountains; for Indian pictures and scenery in 5x7 only. Desire to exchange 5x7, stereos, and unbound lantern slides. Class 1.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

3329—Geo. R. Bunn, 704 W. First St., Los Angeles, Cal.
3¼x5½, of Yosemite National Park and other mountain scenery; for similar subjects or any natural scenery. Class 1.

3330—Anthony Buchal, R. F. D. No. 4, Olivia, Minn.

5x7, various papers, of all-round photography; for the same. Post cards only. Class 1.

3331—M. E. Newell, Brighton, Ill.

Class 2.

3332—Reed D. Bush, care K. T. & O. Co., Section 25, Coalinga, Cal.

Class 3.

3333—George A. Wilson, Box 171, Sutherland, Neb.

Class 2.

3334—Peter E. Nielsen, Sanak, Alaska.

Class 3.

3335—F. I. Vergere, Enterprise, Ore.

Post cards, of elks, mountain and general views; for general views. Post cards only. Class 1.

3336—Edgar O. Spaulding, Harrison, Maine.

5x7, 8x10, mostly 5x7, developing paper, of general landscapes, winter scenes; also a few Southern California views; for anything interesting. Class 1.

3337—Lawrence Kiefer, 900 Hampshire St., Quincy, Ill.

4x5 and 3¼x5½, developing paper, of portraits, scenery, river views, comics, etc.; for scenery and general views. Class 1.

3338—Armin Gierow, Clinton, Wis.

3¼x5½, developing paper, of miscellaneous views; for the same. Post cards only. Class 1.

3339—Al Raggio, Martell, Cal.

3¼x5½, developing paper, of general views; for the same. Class 1.

3340—Miss K. Gerald Bullard, 519 Murphy St., Murphysboro, Ill.

3¼x5½, of miscellaneous subjects; for the same. Post cards only. Class 1.

3341—Frank A. Rice, Box 1125, Ouray, Colo.

3¼x5½, developing paper, of landscape and mountain scenery; for general views. Class 1.

3342—Warren W. Willison, 223 Market St., Winona, Minn.

4x5, and post cards, developing paper, of landscapes, river and miscellaneous views; for miscellaneous views. Class 1.

3343—Albert Nagel, Mayville, Wis.

Class 2.

3344—Earl Middleton, R. F. D. No. 1, Republic, Wash.

1x5, developing paper, of mountains and hunting, just a beginner; for the same. Class 1.

3345—Rowe D. Murray, 484 Wabash Ave., Detroit, Mich.

4x5, 5x7, and 8x10, developing paper, of miscellaneous subjects, landscapes, marines, river views and genre, for the same; also farm scenes. Class 1.

3346—R. G. Johnson, Elva, Neb.

Class 3.

3347—Walter V. Overman, 1935 N. C. St., Elwood, Ind.

Stereoscopic views, printing-out paper, of general subjects, for the same, particularly domestic foreign exchanges. Class 1.

3348—C. J. Brodersen, Gl. Kongevej 121, Copenhagen, Denmark.

Class 2.

3349—Lawrence O. Suther, 231 East Pine St., Atlanta, Ga.

Developing paper, of Southern darkies, specialties, wooded scenes, sunsets, and studies in flowers, for good scenery, wild outdoor scenes, studies and general views. Post cards and slides next above. Class 1.

3350—Ira W. Guldner, 21 West 8th St., Hutchinson, Kan.

3¼x5½, 4¼x6½, and 5x7, developing papers, of views of city and scenery of different places; for buildings and scenery. Class 1.

3351—Geo. Carl Tregoe, 121 W. Falconer St., Falconer, N. Y.

Usually 5x7 and post cards, developing paper, of street scenes and landscapes; for landscapes, old ruins, street scenes, etc. Class 1.

3352—J. J. Hahn, Union St., Dwight, Ill.

Class 2.

RENEWALS

1864—A. G. Lindgren, Echo, Minn.

3¼x4¼, developing paper, of general land and water scenes in S. W. Minnesota; for Yellowstone National Park and western U. S. scenery views. Unmounted prints only. Class 1.

2121X—Minnie Mendenhall, 126 N. Friends Ave., Whittier, Cal.

Class 3.

2202—H. H. Wiles, Box 58, Cedarhurst, Colo.

Class 2.

2533X—Gilmer Winston, care Union & Planters' Bank & Trust Co., Memphis, Tenn.

2½x4¼, 4x5, and a few 5x7. Will exchange prints or post cards for first-class work only; will also exchange sepia or black and white bromide enlargements to 14x17. All work carefully done with good material and anastigmat lenses and will not receive any but first-class work in return. Class 1.

2915—Tom C. Bonney, Faulkton, S. D.

Class 2.

3096X—David Gibb, care Simmonds Studio, 102 W. Gambier St., Mt. Vernon, Ohio.

Up to 6½x8½, of views of interest and monuments; for the same. Prints and post cards. Class 1.

3296X—T. J. Hoge, Postal Telegraph Co., Pittsburg, Pa.

4x5 and smaller, developing paper, of portraits, landscapes, and historical views; for the same. Class 1.

CHANGES OF ADDRESS

1865X—Chas. W. Davies, Box 528, Lake Charles, La.

(Was Box 148.)

2100—Mrs. R. E. Pennington, Box 15, R. Q. Bird Park, Pacific Beach, Cal.

(Was Mabton, Wash.)

2143X—Joseph R. Poole, 141 Congress Ave., Chelsea, Mass.

(Was 147 Clark Ave.)

2769—C. W. Jankens, Lupton, Mich.

(Was Lewisburg, Ohio.)

2839—J. H. Chinnery, Florence, Ore.

(Was Butte Falls, Ore.)

2941—Haskell R. Koons, General Delivery, Canton, Ohio.

(Was Bllox, Miss.)

3023—S. H. Wood, Beaver City, Neb.

(Was Oxford, Neb.)

3412—R. F. Clark, Butte Valley Plant, G. W. P. Co., Keddie, Cal.

(Was Bishop, Cal.)

3205—Clifford Hampton, West Palm Beach, Fla.

(Was Western, Neb.)

3224—Floyd F. Smith, Augusta, Mich.

(Was Berryburg, Mich.)

3234—D. M. Ward, Elk City, Kan.

(Was Baman, Okla.)

3275—Mrs. John Cowie, R. F. D. No. 3, Warsaw, N. Y.

(Name misspelled in April issue.)

3280—John F. Meissner, 193 Lockwood Ave., Buffalo, N. Y.

(Was Milwaukee, Wis.)

WITHDRAWALS

3680 August Erdmann, St. Louis, Mo.

On account of lack of time.

3114 J. G. Boyd, St. Louis, Mo.

Teaching at present and cannot exchange.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

M. A. A. A. Camera Club

This club held its sixth annual exhibition at the Club house of the Montreal Amateur Athletic Association, 250 Peel Street, Montreal, April eighth to thirteenth, inclusive. There were one hundred and ninety-six entries hung, which compare favorably with those of previous years. The division of the open classes into, A, Figure Studies; B, Landscapes; C, Waterscapes, and D, Genre, permitted the Jury of Award to recognize meritorious work which could not have otherwise competed on equal terms, an account of the divergence of subjects. The prize offered were silver and bronze plaques for first and second in Classes A and B, and bronze plaques for the others. Those winning in the Open Classes are: A, First, Jos. M. Rogers, Chicago Camera Club; Second, B. F. Langland, Wisconsin Camera Club; B, First, W. R. Allen, M. A. A. A. Camera Club; Second, B. F. Langland, Wisconsin Camera Club; C, Dr. A. R. Benedict, Montclair, New Jersey, and D, W. S. Fife, Toronto Camera Club. Certificates of Honorable Mention were awarded to A. R. Benedict, Charles A. Coles, W. S. Fife, R. S. Kaufman, H. Mackie, E. Ratibor, and H. C. Shepherd. In the Club Class the winners are: First, W. R. Allen, and Second, B. B. Pinkerton.

An Interesting Brochure

There has reached our desk a handsome little booklet of sixteen pages and cover, gotten out to commemorate the twentieth anniversary of the New Britain Camera Club. It contains a dozen reproductions of pictures by the members, pictures used to brighten up the pages given to an account of the club's doings, this letter written being personal, unstilted lines. The by-laws of the club are also incorporated. All in all, the booklet is most refreshing. The arrangement of the matter is very fine. Running heads and page numbers, entirely unnecessary in such a publication, are left out. Still more gratifying is the entire absence of advertis-

ing, eloquent testimony to the fairmindedness of the club in its relations with the local dealers. It is a publication that other clubs would do well to immitate, as it can have only a strong influence upon others to joint the organization for which it speaks. While the edition is no doubt limited, the Secretary, Ellsworth Sheldon, New Britain, Connecticut, would no doubt be pleased to send a copy to other clubs that might be interested.

Observes Birthday

In the spring a young man's fancy lightly turns to thoughts of amateur photography, which no doubt accounts for the birth of the Elysian Camera Club, of Hoboken, at this season of the year a decade ago. To be exact, it happened on the twenty-first of April, 1902, and the members of this very live and active organization have celebrated its tenth anniversary in a manner befitting its splendid history.

The celebration lasted for eight days, beginning on Sunday, April twenty-first, and continuing until the following Sunday.

On Sunday and Monday there was an exhibition of prints at the club rooms; Tuesday evening, a smoker and an exhibition of lantern slides. Wednesday night was devoted to the fair sex, a "ladies' night" having been arranged for that evening. Thursday night there were lantern slides and an exhibition of prints, and the remaining days of the celebration were devoted to an exhibition of prints, to which the general public was cordially invited.

Do Not Overlook This Offer

Attention is called to the offer made in our advertising pages by Jas. H. Smith & Sons Company, to intensify and make a print from one of your under-exposed films, free of charge. All of our readers who are not acquainted with the merits of Victor Intensifier should take advantage of this offer and find out what this excellent intensifier is capable of doing.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Will Lussier Passes Away

Will Lussier, well known to the photographers of the Pacific Coast through his long connection with the Cramer Dry Plate Company, as Coast agent, passed away April sixth at San Gabriel. Pasadena Lodge, No. 672, B. P. O. E., was in charge of the funeral services. He leaves a wife and many friends to mourn his loss.

Francis Brugiere Exhibits

April twenty-second to twenty-seventh there was held at the galleries of a local art dealer one of the finest exhibitions of photographic work ever shown in this city, the productions of the well known artist of the camera, Francis Brugiere. The exhibition was noteworthy in the uniform high merit of the pictures shown, and the entire avoidance of that occasional departure into the extremes of varying treatments that suggests an uncertainty as to ideals and methods. Portraits predominated, and in these Mr Brugiere shows a master hand.

A Whole-Souled Advertiser of To-Day

Many a manufacturer of the olden time refused to advertise for fear he might create a demand for his line of goods, and that some of his rivals might, therefore, profit by his outlays. Such narrowness of view and bitterness of competition then existed, that even were such a person convinced that he would reap nine-tenths of the new custom, he would not enter the field because of the one-tenth that would reach his rivals.

Life widens; intelligence enlightens, and advertising, as a force, has developed many things for which it receives no direct credit—stimulating commerce, proclaiming new inventions to the very ends of the earth, unifying fashions and systems, softening prejudices, sifting with lightning speed the pretensions of manufacturers and merchants, making possible such enormous outputs on the part of individual houses as to greatly reduce the cost and the necessary percentage of profits. Advertising has made a

noble showing in the work of the world, and it is destined to be still greater.

It is truly a wise and yet a generous-spirited advertisement which, regardless of the multitudes of other rivals, the Eastman

Those old Daguerreotypes of grandfather and grandmother and Aunt Mary and then the quaint pictures of father and mother taken just after the war—money couldn't buy them from you.

Are you forgetful of the fact that future generations would cherish just such pictures of you?

There's a photographer in your town.
Eastman Kodak Co. Rochester, N. Y.

Kodak Company is putting out in all the leading publications in the interest, not of its own business directly, but of each and every photographer in the United States. Read it; study it; think about it, and realize how kindly the whole photographic trade of the United States must view its brave helpfulness.—*Fame*.

The Euryplan Lens

Mr. Stellmann, the local agent for the Euryplan lens, placed one of the Series Va in our hands for trial. It is a lens of seven inches focus working at an aperture of f-4.5. It is symmetrical, and a singel combination gives an image of double the size of the complete lens, and does it at an aperture of f-8.5, making it easy to do high-speed work with a focal length that gives almost a telephoto picture. The lens used, intended

CAMERA CRAFT

for a 5x7 plate, was found to give remarkably good results when used on an 8x10 plate and stopped down for wide-angle effect. The full combination, owing to its large aperture, f-4.5, makes an ideal lens for portraiture, particularly home portraits in a poor light. The single combination used, the back one in our case, also gave portraits of an exceptional high character. All in all, the lens is one of the best anastigmats it has been our pleasure to try, and we would advise all our readers to write or call on Mr. Stellmann if the need of a new lens is felt. Circulars will be sent upon application to L. J. Stellmann, 1017 Vallejo Street, San Francisco, California.

Bissell College of Photo-Engraving

The College has just received a call for an all-around engraver from the Government of Venezuela, South America. One of the students expects to take the position in a couple of weeks. The consul at New York has guaranteed all traveling expenses for the trip in addition to the salary. This will give the engraving college representatives in six of the Spanish-American countries; Venezuela, Mexico, Cuba, Guatemala, Panama and Ecuador. Incidentally, our representative student in Ecuador, Juan Amat, writes us that he and his political party have been revolutionized, and he will retire from the engraving business in that country until the next revolution.

Chas. E. Scott, engraver of 1910, who recently returned to the College for review work, has taken a position with Carl Thompson, student of 1905, who has an engraving plant at Omaha.

Gustav Hauschild has gone to work for the Gray Printing & Engraving Company, of Fostoria, Ohio. Mr. Gordon Gray was a student in 1905.

Flashlight Cartridges

The past season shows a greatly increased demand for the Actino Flash Cartridges, the sale having doubled during the past year. They are packed in boxes of six each, the smaller size being suitable for illuminating a twelve-foot room and the largest of the three sizes a thirty-foot one. They are very convenient and the certainty of ignition which characterizes them, together with their strong illuminating power, makes them most desirable for flashlight work. They do away with the trou-

ble and uncertainty of measuring out some given quantity and using a lamp. One simply uses a cartridge of the desired size, placing it where desired, removes the cover, and ignites the safety fuse. One or two exposures made with their assistance will assure a continued use. They can be obtained of most dealers or direct from the manufacturers, James H. Smith & Sons 3541 Cottage Grove Avenue, Chicago, Illinois.

A New Price List

The Photo Products Company have recently issued a new price list of their complete line of photographic paper and post cards. Price lists as a rule are most uninteresting pieces of literature, but this one is an exception. They not only mention the various grades, but describe them in such a way so that the photographer can easily tell which is likely to best answer his requirements. The list is neatly gotten up, and consists of twelve pages; one of them contains an excellent halftone reproduction of their plant.

Merriam's New International

"Webster's New International Dictionary," advertised on another page, has been the standard authority of the Government Printing Office for over forty years. A few commendations follow:

"Not a word or a definition in which some change for improvement has not been made."
—New York *Sun*.

"The novel division of the page into two sections is a stroke of genius."
—Chicago *Record-Herald*.

"It stands preeminently in the very front rank as a necessary and esteemed lamp of our language."
—Portland *Oregonian*.

"Stands as the product of ripe scholarship and a model of convenient arrangement."
—Detroit *Free Press*.

"The book is a monument to the greatness of our language."
—Indianapolis *Star*.

"One of the wealthiest mines of information in the world is the just-out issue of Webster's New International Dictionary."
—Boston *Globe*.

Tennant & Ward In New Quarters

Tennant & Ward, the well known publishers of the *Photo Miniature* and books on photography, have removed from 122 East Twenty-fifth Street to 103 Park Avenue,

NOTES AND COMMENT

New York. The new editorial and business offices are near the Grand Central Depot, in the very heart of the city, and, therefore, most advantageously located. We have not yet received the usual advice in such cases, that the move was made necessary in order to secure larger quarters for the handling of a greatly increased business, but sincerely hope that our good friends are enjoying the ever-increasing business to which their efforts entitle them.

Some More New Styles Coming

Mr. Herman Adam, vice-president of the California Card Manufacturing Company, is at present in Europe looking up new material and ideas at the mills and elsewhere, to the end that his firm will have out some excellent new styles for the holiday trade, and in good season. These new offerings will be shown by the firm's traveling men in the near future. The firm is sparing no pains or expense to maintain the enviable position which it holds, and its customers may be assured the most advanced style and highest quality. If you have neglected securing one of their catalogues, send for it at once, using your business stationery or enclosing business card. Address, California Card Manufacturing Company, Potrero Avenue and Mariposa Street, San Francisco, California.

A Fine New Catalogue

Ask your dealer for a copy of the new Hawk-Eye catalogue. It is a beauty, and covers a line of cameras that is not only holding its popularity, but constantly adding thereto. The Hawk-Eye folding cameras open at the side instead of at the top, and with the exception of the box cameras and the stereo models, are all made of aluminum, covered with seal grain leather. The line is one that will interest any camera user who desires a good camera making a handsome appearance, and one at a reasonable price. If there is no dealer near, send direct to Blair Camera Division, Eastman Kodak Company, Rochester, New York, for a copy of this new catalogue.

Mailable and Less Expensive

Victor Intensifier, which has been advertised in our pages for some time, should have the attention of all our readers. In addition to being a most excellent and dependable article, but being in powdered form it is mailable and much more economical than

other intensifiers that are sold in liquid form. The powders, costing twenty cents, make four ounces of an intensifier that will work wonders with negatives that lack the requisite amount of density for good prints. Order a package from your dealer and give it a trial. If he does not have it, send direct to the manufacturers, Jas. H. Smith & Sons Company, 725 East Thirty-ninth Street, Chicago, Illinois.

Flashlight For Color Work

At a public demonstration held by the Photographers' Club of Bridgeport, the Agfa flashlight powder proved to be a solution of the greatest drawback in the making of color plates (autochrome). George L. Barrows, of the Berlin Aniline Works demonstrated the making of color plates by the aid of flashlight and the new Agfa professional flashlamp just introduced by this company. The Mayor of Bridgeport and several well known society leaders were all successfully photographed. The Agfa powder overcomes the objectional smoke annoyance as well as the explosive noise, so apparent with some flash powders, and a comparatively small amount of powder is used, owing to the extreme amount of light produced.

The New Premo Catalogue

The Premo line of cameras is too well known to need our praise, but the new Premoette Junior is a novelty. It is a complete little camera taking a twelve film pack, $2\frac{1}{4} \times 3\frac{1}{4}$, selling for the small price of five dollars. It has a ball-bearing Kodak shutter and direct view finder, yet folds into less than one and one-half inch in thickness. It is well made, and handsomely finished in keeping with the more pretentious cameras making up the well-known Premo line. The new catalogue describes them all. Get a copy of the new 1912 catalogue off your dealer, or write direct to the Rochester Optical Division, Eastman Kodak Company, Rochester, New York.

The 1912 Kodak Catalogue

The Kodak catalogues are always handsome and interesting, and well worthy of the popular Kodaks that they describe and picture. Folding Pocket Kodaks, Vest Pocket Kodaks, Special Kodaks, Speed Kodaks, Panoram Kodaks, Bull's Eyes, and Brownies, are all listed in their various

sizes and styles. Be sure and get one of the new, 1912 catalogues of your dealer, or, if there is no dealer near at hand, write directly to the Eastman Kodak Company, Rochester, New York.

Illinois College of Photography

The photography boys' bowling team has secured a decided lead over the engravers during the past month and are beginning to insinuate that the game is too deep for them; but the engravers merely comment that people who do nothing but sit around all day in a studio and talk to pretty girl subjects ought to be able to clean up on a bunch that have worked themselves down and out every day before the game.

Masataro Ito writes us from Oswego, New York, that he is having excellent success with home portraiture in that city and is creating quite a reputation for his work.

Mr. and Mrs. Bissell have just received word from San Francisco that they are the grandparents of a fine baby boy at the home of their daughter, Mrs. J. F. Magee.

The prizes in the monthly photographic contest at the College were won by Messrs. Kurano, Pace, Nieholoff, Young and Sabin.

The Tennis Club have put their grounds in excellent shape. New back stops have been erected, and the grounds have been rolled to perfect smoothness. Some hot matches are pulled off every evening.

Fred Locke, who has been working the past winter in Philadelphia at newspaper engraving, has returned to finish his engraving course at the college.

Mr. Taylor, of the Bausch & Lomb Optical Co., gave the students a very interesting lecture on the lens question recently. On his next visit he will bring a number of lantern slides and diagrams illustrating his talk.

Anton Zmuda has finished the photographic course and returned to his home city, Harvey, Illinois, where he will engage in home portrait work.

Well Worth Trying

Stiefel's Pumice Stone Soap is prepared by J. D. Stiefel, of Offenbach-on-the-Main, Germany, the pioneer manufacturers of medicated soaps, whose products have for more than a quarter of a century been the universally recognized standards in the field—as any physician or druggist will confirm.

Unlike so many soaps offered to the pub-

lic as hand cleansing agents, which are merely modified household scouring soaps, Stiefel's Pumice Stone Soap has been originally and exclusively devised for toilet use. Compounded on the strength of its manufacturers' unrivaled experience, it embodies the essentials of a rational and efficient hand cleansing soap, viz., an absolutely pure, neutral soap base and perfectly uniformly distributed, even-sized particles of a specially prepared, absorbent and resilient material. It rapidly removes accumulations of dirt and dead outer skin, opens up the pores and gently stimulates the innumerable little glands of the skin to impart to it their life-and-smoothness-bringing secretion. It does its work instantly with cold or lukewarm water and very little friction. Harsh, unyielding friction and the frequent use of hot water, necessitated by imperfect hand cleansing soaps, leave the hands rough and chapped—ready victims to dust and dirt.

Invaluable for workers in machine shops, foundries hot-houses, automobile garages, etc. A boon to the photographer, amateur or professional, for it will do what no other hand cleanser can achieve,—remove developer stains.

If your druggist or photo materials dealer does not keep it, send his name and address, together with ten cents. One full sized cake will be sent you by Schering & Glatz, 150-152 Maiden Lane, New York.

"Doing It Right"

The Photo Products Company have made rapid progress in the last year. The products made by this concern include paper for professional portrait, commercial, view and amateur work. Their policy of free samples to professionals is certainly very convincing of their absolute confidence in their papers. We suggest that professionals take advantage of the generous offer of this enterprising concern. We understand their prices are very attractive. The best way to learn them is by requesting a price list. They also publish a very complete manual of developing paper manipulation called "Doing it Right." If you haven't a copy, ask for one—it's free.

Hammer's Little Book—The Ninth

The ninth edition of "Hammer's Little Book" is just to hand, and reminds us that it has been some time since we advised all our readers to send for a copy. It is ab-

NOTES AND COMMENT

solutely free, and contains a wealth of information. A copy in the hands of any photographer would answer many questions and help him over the numerous difficulties that are perplexing him. Under Exposure, Over Exposure, Approximate Exposure Table, Table of Comparative Exposures, Tank Development, Improving the Character of Negatives, Hard Negatives, Weak Negatives, Halation, Stains, Spots, Fog, and many other chapters of like title are contained between the covers. Write for a copy today before the matter slips your mind. Address, Hammer Dry Plate Company, St. Louis, Missouri.

Aeroplane Horses

Aeroplanes are not easy subjects for the camera, and racing horses require some experience and skill in connection with suitable apparatus for their successful portrayal. When it comes to an aeroplane racing horse, the difficulties are multiplied. Ted Hanson, the photographer who follows the trotting horses all over the country with his Hall camera, evidently finds little difficulty in meeting any requirements. The new Hall camera catalogue contains one of his pictures of an aeroplane horse in action, and it is an excellent example of high speed work. It shows the capabilities of the Hall cameras most convincingly. And there are over fifty other fine examples of high speed work in the same catalogues. It is really dangerous to one's peace of mind getting one of these catalogues unless he is prepared to purchase a Hall camera at once. But the prices are so reasonable that the desire to possess can be easily appeased. There is a Hall pocket focal plane camera almost ready to be placed on the market, we are advised. Get this new catalogue by addressing, Hall Camera Company, 14 Dunham Place, Brooklyn, New York.

Opaque Projection of Large Objects

A new realm of usefulness has been opened up for optical projection by the unique Balopticon recently devised and constructed by the Baush & Lomb Optical Company. Designed for the projection of opaque objects and illustrative material direct on a much larger scale than ever before attempted, it has proved entirely practical in operation and presents new possibilities for this attractive form of projection.

The original model was devised as an

experiment in response to the request of the National Cash Register Company, of Dayton, Ohio, for an instrument of sufficient scope to project on the screen an entire section of a cash register. So satisfactorily did the model accomplish this end, even in its then crude state, that the official of the company who came from Dayton to inspect it ordered four of the instruments to be made up.

These instruments they are now using to good purpose in educating their salesmen to a more intimate knowledge of their product and of the efforts being made to market it. A section of a cash register is placed in the Balopticon and shown on the screen with the mechanism in actual operation. Large advertisements and placards are also projected for purposes of discussion and comparison.

In addition to these commercial uses, this new lantern can be used to advantage in projecting full-page illustrations from large magazines, or photographs and engravings of any size up to twenty inches square. In educational work, too, lie some of its greatest possibilities for service as it is especially suitable for projecting large embryos and anatomical specimens. All subjects are clearly shown in their natural form and coloring in greatly enlarged images, conveying a certain sense of the true relation of the parts projected.

Ernon Kino Apparatus

The Ernon Kino Apparatus is a perfect moving picture machine for use in the school, in scientific work, and in the home. We have just received a copy of an English edition of a booklet describing it and its working in full detail, the booklet being one gotten out by the American agents, the Ernon Camera Shop, 18 West Twenty-seventh Street, New York. Some two years ago we had the pleasure of trying out the first of these cameras to reach this country, and can assure our readers that it is all that it is claimed. Our occasional contributor, Doctor Gustav Eisen, found it being used extensively by scientific bodies in Germany, and spoke in the highest terms of its capabilities. It is, of course, not suited to the requirements of large halls and audiences, but for school and home work it is perfect in every detail. It is mechanically perfect, and built and finished with the same

degree of excellence that characterizes the Erneman line of cameras. Copies of the booklet can be obtained upon request to the agents named above.

Enlargement of "The Implet"

In accordance with the desire of hosts of readers, *The Implet* is to be forthwith enlarged. The number of its pages will be increased, and its scope will be widened so as to embrace all phases of moving picture progress and activity. *The Implet* does not compete with any existing publication. It does not clash with papers that deal with the dramatic aspect of the moving picture. It aims to address exhibitors, manufacturers, and the trade. It deals with the technical, artistic and educational aspects of the picture. It stands for picture progress; the uplift of quality and the popularization of the picture amongst all classes of society. It is newsy, bright, informative and unconventional. For sample copies address, *The Implet*, 102 West 101st Street, New York.

A Timely Warning

Warm weather will be coming on later, and it will be well for those who own a bottle of strong ammonia to remember that it is a solution very highly charged with ammonia gas. As the contents become warmer, less of the gas is held in solution, and quite hot weather has been known to blow out stoppers or burst the bottle in case the stopper had become fixed. When a fresh bottle is opened for the first time the ammonia is generally found to be under considerable pressure, even if the atmosphere be not warm. It is advisable to hold the neck of the bottle away from the face while removing the stopper to minimize the risk should the contents spurt out. It is not so long ago that we read of a young man in England losing an eye by a drop reaching that organ as the ammonia spluttered upon release of the cork.

The Victor Cabinet

A new circular, just off the press, describing the improved Victor Studio Flash Cabinet, has just reached our desk. We note a difference in the framework of the base, the present style being much neater, and it is also lighter. Another improvement which has been made is in arranging it so that the Cabinet can be tilted to give the front any desired angle. A new illustration shows

the jump spark igniting system, a little box holding the six dry cell batteries, with the sparking coil on top of it, and the little rack at the lower left-hand corner of the Cabinet holds twelve small porcelain flash pans, which can be loaded with powder in advance, so that when operating, a new charge of powder can be put in as quickly or a little quicker, perhaps, than a photographer can change his plate-holder on his camera. The jump spark igniting system works by the pressure of the same bulb that operates the shutter; and, it never fails. Send your inquiry today for this and other interesting circulars covering the goods manufactured by this enterprising firm. Address, James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, Illinois.

Notes From The Illinois College of Photography

Frank R. Fraprie, editor of *American Photography*, of Boston, made a special visit to the College on April fifth. Brother Fraprie knows the editing business from A to Z, and many other things, and we look forward to his next visit with a great deal of pleasure.

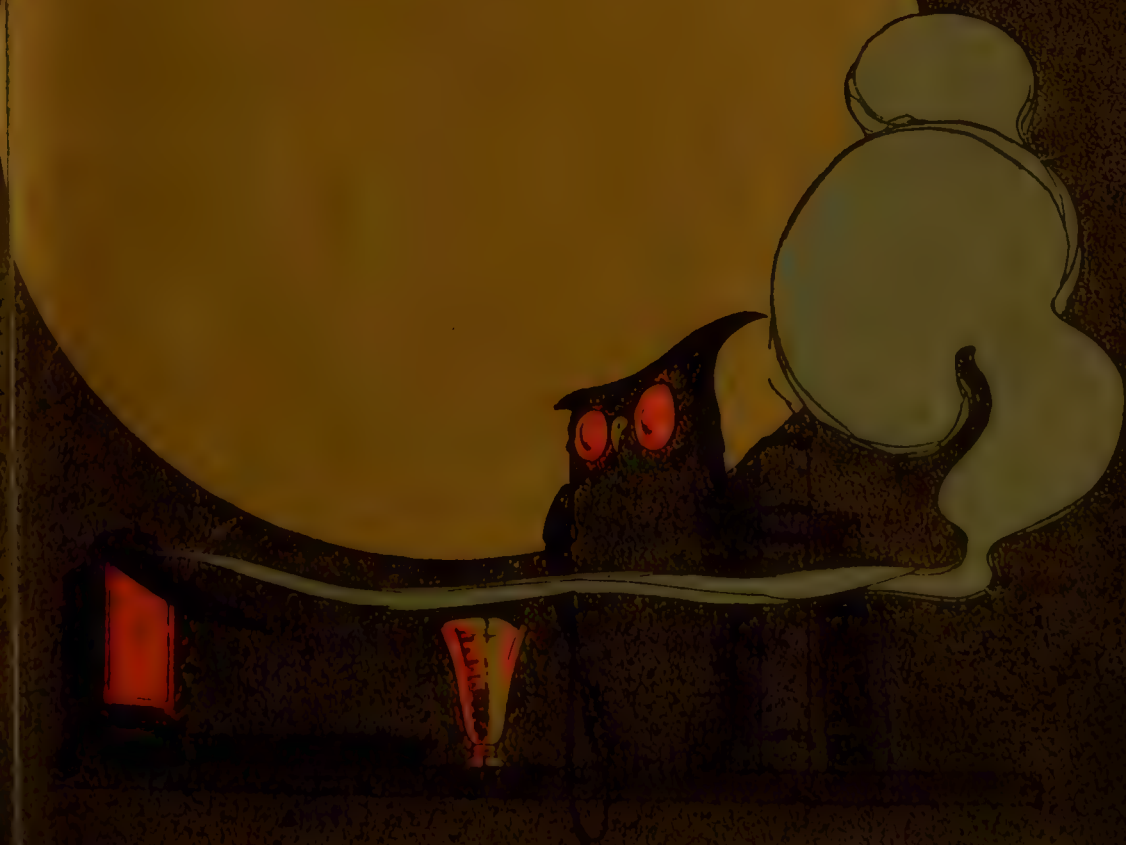
C. W. Dishinger, student of 1910, called on us last month with three enormous frames covered with the pictures of about two hundred and fifty members of the Mississippi Legislature. The sets were to be copied on 20x24 negatives, and Mr. Dishinger came about five hundred miles to use the college outfit for the work. We also received very pleasant visits last month from Max Freudenburg, student of 1906; A. F. Wilson, of 1910, and Miss Hayes, of 1911.

President L. H. Bissell was elected president of the National Good Roads Association of Illinois last month at the Convention held in Effingham. The purpose of this organization is to establish a system of modern hard roads from Coast to Coast, and the Convention at Effingham covered the Illinois section of the work.

Several foreign students have enrolled during the past month, as follows: H. T. Manabe, Japan; R. S. Noda, Japan; Nagen-dranath Ghose, India; F. Kunishige, Japan.

Henry H. Blank and Fred C. Miller, who have just finished the photographic course, are engaging in home portrait work in Milwaukee.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

There is psychology in photography, and it also has its "Cykology," the principal medium of which is CYKO—the sensitive recorder of that indefinable something in every artistic negative. — *Fra Mendel*.

Good negatives may be divided into three classes: soft, normal and "contrasty."

The result depends on the paper used for printing.

Any of these good negatives, if printed on the wrong paper, will produce poor prints, and all will yield beautiful prints on the right grade of

Cyko Paper

Cyko is made in three grades of tone gradation for amateur printing, corresponding inversely to the class of negatives for which each grade is intended.

Contrast (Blue Label) For weak and soft negatives.

Normal (Yellow Label) For normal negatives of even gradation.

Soft (Red Label) For contrasty negatives.

Send for Cyko Manual, the key to prize-winning pictures.

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A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

VOL. XIX

JULY, 1912

No.

A Few Dark-Room Facilities

By James Victor Feather



With Illustrations by the Author

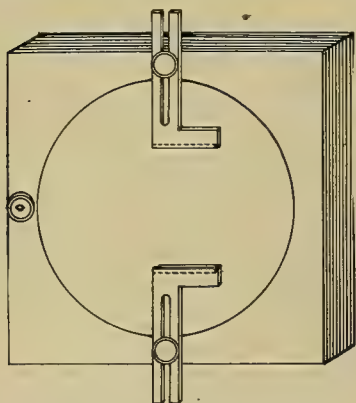
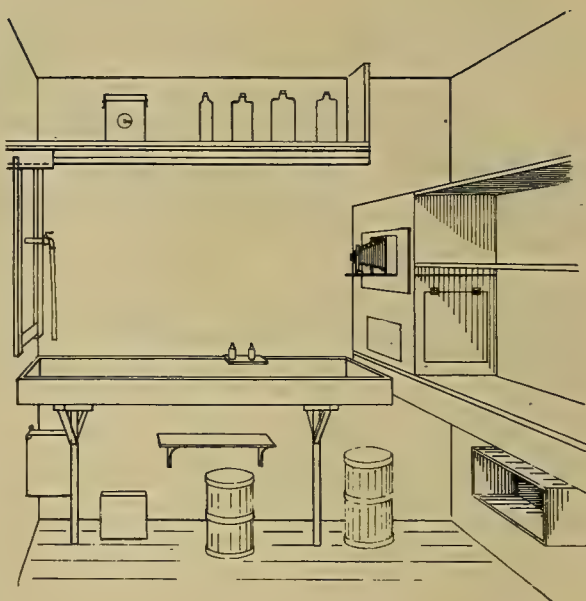
Being one of those fellows who are none too fond of passing long, weary hours in a stuffy dark-room, and my own particular dark-room being one of the hottest and stuffiest that I ever came across, I was early impelled to devise means that would enable me to produce the maximum amount of work in the shortest possible time. My room is very small, being only four by six feet, inside; and, while some may think this too small to be very handy, I will try to show the reader that it is large enough for all practical purposes, even to the production of 16x20 enlargements. In fact, the very small dark room has several points to commend it, the chief one being, the user is compelled to keep it in a state of cleanliness. One cannot make a junk room of it; if he does, he would not be able to get in. Then again, in a small room everything is within easy reach.

As I said before, my dark-room was stuffy; it is. The temperature frequently reaches one hundred in summer; and, there being no way to reduce the temperature of the room, I had to devise ways and means of keeping the solutions in the trays at an even and like temperature. This was accomplished in a simple manner, the building of a sink that was water cooling.

I had a box made at the mill, 18x60 inches and three and one-half inches deep. This was lined with unbleached muslin carefully tacked in place and then given two coats of Probus paint. A hole was bored in the bottom for the outlet pipe, which is a piece of lead pipe with a copper flange soldered

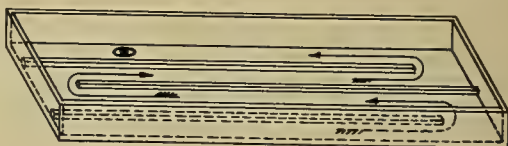
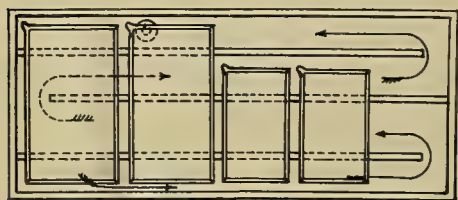
CAMERA CRAFT

on the upper end and fastened in place with tacks all around its edge. Three strips of wood, one inch square, were nailed in the bottom for the trays to rest on, and these strips are placed in such a way that the water from the washing tray has to run all around the sink, reaching every corner, before it finds the outlet. A piece of sheet copper was bent to form a tube that would just fit into the drain pipe, and by raising or lowering this tube, the height of the water can be regulated so that it will touch the bottom of the trays and so keep all the solutions at an even temperature. When the work for the day is finished, the tube is removed, allowing the water to run off. I find this system of cooling far superior to any other. In cold weather, of course, the water is allowed to run off without touching the trays. The accompanying diagram will give a good idea of the arrangement.



slots in their ends, allowing the negatives to be placed at the most desirable point. These fingers are shown in the diagram herewith. The camera is attached to a frame hung on hinges, allowing it to be swung out of the way

A combination dark-room lamp and enlarging lantern was made out of a dry goods box, in the following manner: A hole was cut near the bottom of one side, about ten inches square, and covered with two pieces of red and one of orange paper. Above this, in another opening, a pair of eight-inch condensing lenses were fitted and an old 4x5 camera, arranged in front, completed the enlarging lantern. The negatives for enlarging are held in place before the condensers by means of adjustable brass fingers having



A FEW DARK-ROOM FACILITIES



HUNTINGTON BAY, LONG ISLAND, NEW YORK

when it is desired to place or remove a negative. When not in use, the camera is closed, taking up practically no room. I use a Welsbach lamp for the illuminant, though any other light would no doubt answer. By cutting another opening on the side of the box, one can use the same light for gaslight printing. A hinged door can be fitted and dropped down when it is desired to have the room dark.

The upper of a double shelf over the sink carries the developing solutions in gallon bottles, stock hardener, etc., while the lower forms the bed upon which the carrier for the enlarging easel travels. When not in use, this carrier sits close to the wall at the end of the room, out of the way. A 22x28 bread board is used as an easel, and glass push pins are employed for pinning the paper thereon.

The diagram shows the type of legs used to hold up the sink, they being made that shape as taking up but a very small space. They are set well in beneath the sink so that one is not always kicking them. A keg of hypo forms an excellent seat, and has the further advantage of abolishing superfluous furniture from the dark room; another hypo keg being used for a waste barrel. The plate washer hangs on a nail under the sink, when not in use, and a little shelf, also under the sink, carries a variety of additional trays for special uses. I invariably print by daylight, swinging the printing frame out of the open door with the left hand. I have several shelves, at my right hand side, that are used to carry the negatives I am printing from, the papers, reserve boxes of paper, and a supply of printing frames of various sizes. On the edge of the sink nearest the wall, I have two bottles, one for bromide, the

CAMERA CRAFT

other for iodide; these bottles being of different shape so that it is impossible to get them mixed. I employ the same method with the solution bottles, so that, even in the dark, I may be sure that there is no danger of using the wrong solution. That is all there is in my dark-room. I could never understand why some workers use their dark-room for a storage warehouse, stuffing all their old junk in its sheltering darkness.

For developing plates, I pin my faith on the Eastman plate tank, using the 8x10 size for both $6\frac{1}{2}\times 8\frac{1}{2}$ and 5×7 plates. My developer is a combination of pyro and hydro-metol, prepared as follows:

Hot water	1	quart
Metol	$\frac{1}{8}$	ounce
Hydroquinone	$\frac{1}{2}$	ounce
Seed's sulphite of soda.....	$1\frac{3}{4}$	ounces
Seed's carbonate of soda.....	$3\frac{1}{4}$	ounces

The solution is poured into a gallon bottle, filling it to the top. In another bottle containing sixteen ounces of water, I dissolve the contents of a can of pyro and add ten grains of oxalic acid as a preservative.



THE REAPER. This effect of action is obtained by posing the picture, setting the shutter at one-fifth second, and then starting the horses. The bulb is squeezed at the instant the horses lay against the harness to start. This gives an effect that looks like good action without its difficulties.

To use, I take twelve ounces of the hydro-metol solution, add one-fourth ounce of the pyro solution, and fill to the mark on the tank; developing twenty minutes. Where it is not desired to use the tank, or when there are only a few plates to develop, I use four ounces of the hydro-metol and one-eighth ounce of the pyro solution, adding four ounces of water.

I do not agree with those who say that there is not a good, two-service

A FEW DARK-ROOM FACILITIES

developer, as I use the same developer for paper, adding a few drops of bromide and omitting the pyro, of course. I generally mix up the solution for papers in separate bottles, adding the bromide, one-eighth ounce to the above formula, at the time of mixing. I take four ounces of this stock solution, add four ounces water, and, if the paper I am using is glossy, or if the contrast is too great, add iodide. I am a firm believer in Azo paper, using it almost exclusively; not because it is cheap, but because I have never found a paper on which I could get just the effects that I can on Azo.



A FINE EFFECT OF LIGHT AND SHADE. View on the Estate of B. F. Yockum, President of the Rock Island Railroad, Farmingdale, Long Island

While I try to economize on paper, I am extravagant in plates, believing that the most essential thing is to get a good negative. Those who uphold the doctrine that it is the print that one sells, not the negative, are only partly right. They fail to explain how one is to get a good print from an unsatisfactory negative. For my view work I use Standard Orthonon plates; they cost a little more than the ordinary kind, but when I start out for a day's work, I know that they will take care of every possible condition of light. Their rendition of detail, color values, and fine degrees of light and shade, is marvelous. I am sending the editor a few prints that will demonstrate my success with them. I find them fast enough for Reflex camera work, except where extreme speed is required. If one has to photograph right into the sun, one can still be sure of getting satisfactory results by taking care to shade the lens from the direct rays. If one has a negative to make at an hour so late that the use of an ordinary plate would be impossible, he would still be able to get satisfactory negatives with these plates because they work comparatively faster

CAMERA CRAFT

as the light gets more yellow. For flashlight work I find them very fine, and for interior work I use no other. Being double coated, one coat fast, the other slow, they have a wonderful degree of latitude. They are, in my opinion, the best all-around plate. I do not know anything about their qualities as a plate for studio use, as I use electric light for my own portrait work and they do not seem to give as good results, under such light, as do ordinary plates.



A DIFFICULT SUBJECT—TAKEN DIRECTLY AGAINST THE LIGHT

The reader will notice that I have made no provision for loading plates in my dark-room. I do not believe in keeping plates in the room that is used for developing. I have a separate room in which to keep plates, and I change plates and load my holders in that room. I find that plates will often deteriorate if left in the working room. Then again, if one desires to change plates while the dark-room is being used, one does not have to disturb the arrangement or the work going on.

The dominant idea was to have a room that would be large enough to handle the work and still be small enough to be handy; to make it possible, in fact, to work all day, if necessary, without getting off one's seat. Four years' constant use has not suggested any improvement. I forgot to mention that there is electric light in the room and that I use an eight-candlepower lamp, covered with orange tissue paper, to illuminate the room while printing, with another eight-candlepower lamp in a box, its front covered with red and orange paper, for an additional developing light. The gas is only used for printing and enlarging. A further omission being that there is a dark green window shade hung at the top of the door frame, which, when printing, is drawn as low as possible without interfering with the free swing of the printing frame

A FEW DARK-ROOM FACILITIES

in and out of the door. This shade prevents any extraneous light getting into the room and fogging the papers.

Pyro gives tones varying from blue-gray to reddish brown, according to the amount of oxidization that has time to take place; and that, in tray development, makes it practically impossible to develop two plates alike. The ideal negative is one that contains just enough of the amber tint to make it a good printer. The first plate put into a pyro solution will show a color very little different from one developed with metol. If three plates be successively developed in pyro, they will vary until the third will be about the right color, but if three more are developed in the same solution, the last one will have a decided red-brown color and will take several times as long to print as will the one first developed.

Hydro-metol, while not giving an ideal printing color to the negatives, nevertheless gives absolutely even colors to as many plates as one may wish to develop in one solution; this uniformity of tone, and its further property of rendering detail, are its most valued traits. And, by adding just a little pyro to the ordinary hydro-metol developer, one secures absolute uniformity of color in all his negatives, the pyro giving the desired tone that makes the ideal printer. Of course, in tank development, the advantages of a combined solution will not be so great, because all the pyro-developed plates will be alike; and, on account of the time required, they will no doubt be the right color. For tray development, I think the two-solution developer is the best. I use it for both methods. I may say that I am an enthusiast on the tank subject. In this connection, a little incident that occurred a short time ago may be of interest. I was visiting a fellow photographer in a neighboring town, and, looking around, happened to spy a nice, new-looking, 5x7 Eastman tank. "Ha! ha!" said I, "getting up to date." "Up to date, nothing," said the friend. "What's the matter?" I asked. "Oh! Simply don't like it, that's all. I'll sell it to you if you want it." "How much?" said I. "Three dollars." I pulled out the money and offered it to him with these remarks: "Old fellow, you don't know what you are talking about. Now I don't want to take this tank from you; because, if you don't need it now, and if, as you think, you would rather watch the plates develop, the time will soon be here when you will wish you had some means of doing the plates without having to watch them. It's all right now, but pretty soon it's going to be so warm that you will welcome any device that will shorten your time in the dark room. Still, I would like to buy this tank at this price, and if you still want to sell, here's the money." I didn't get the tank.



Photographic Shutter Characteristics

By J. G. Boyd



With Illustrations by Various Workers



HIGH JUMP WELL CAUGHT

PHOTOGRAPHIC shutters, their characteristics and performances, long have constituted, and possibly long will constitute, a fertile field for discussion and investigation. Not always are the articles put forth sufficiently innocent of commercialism to warrant the respect necessary to their assimilation. The writer of this is in no manner, either directly or indirectly, connected with or interested in the manufacture or sale of any photographic material or apparatus. What follows is simply the beliefs of an amateur of an investigating turn of mind, one who is neither an oracle nor an expert.

As a matter of cold, concrete fact, every shutter made, from the humble cap to your own especially preferred device, contains more or less general

merit. It may be low cost, extreme simplicity, or high efficiency. The "Universal Best" still lies latent in the inventor's brain.

Ordinary shutters may be divided, roughly, into two types: the automatic and the "set." The first requires only the pressure of a bulb or similar release, while the latter requires the setting of a spring tension before the exposure is made. The writer knows of no form of automatic shutter having sufficient speed for rapidly moving objects at close range. A spring tension of constant value seems to be absolutely essential to an automatic shutter, and must, necessarily, have a somewhat limited field of action. The setting of a varying spring tension seems somewhat complicated to some amateurs, but the complication is substantially the same as that involved in winding and setting a watch after it has run down.

Taking the automatic as the most common form, perhaps the most effective is the simple disc shutter fitted to the cheaper box cameras. This type has marked efficiency, enabling negatives of good density to be made under conditions quite trying to some of the leaf or blade shutters. One can satisfy

PHOTOGRAPHIC SHUTTER CHARACTERISTICS

himself on this point by setting up a camera of the box type and another of the focusing type, alongside, and, with like plates and like lens apertures, make dual exposures on the same subject. Develop both negatives simultaneously and take off your cap to the shutter that secured the best result.

The ordinary leaf automatic shutter, perhaps through conventionalism, schedules its ranges of speeds as one one-hundredth, one-fiftieth, and so on. Just how much difference there is between these indicated speeds can best be determined by a simple trial. Some of these shutters do show a variation, surprisingly wide, when one considers the very simple brake principle employed to regulate the speed, while others show a surprising disregard of the markings



GOOD ACTION, GOOD DEPTH, AND FULL EXPOSURE

on their dial or front. Too often, these higher designated speeds will not arrest motion any better than the humble disk type, set at instantaneous, and the illumination is quite likely as well to be in favor of the latter. This explains why the novice, with a two-dollar box camera, often secures results far superior to his neighbor who is equipped with an outfit costing ten or fifteen times as much money.

A newer class of shutters, of which the "Compound" is a type, will be found somewhat more satisfactory in arresting fast motion, these shutters finding their scope greatly amplified when lenses of large aperture are employed. However, one should, in buying a faster lens, be careful to select one whose free aperture is not in excess of that of the shutter.

Coming to the focal plane shutter, one can hardly help feeling that the name itself is a misnomer. There is but one focal plane, and that is occupied

CAMERA CRAFT

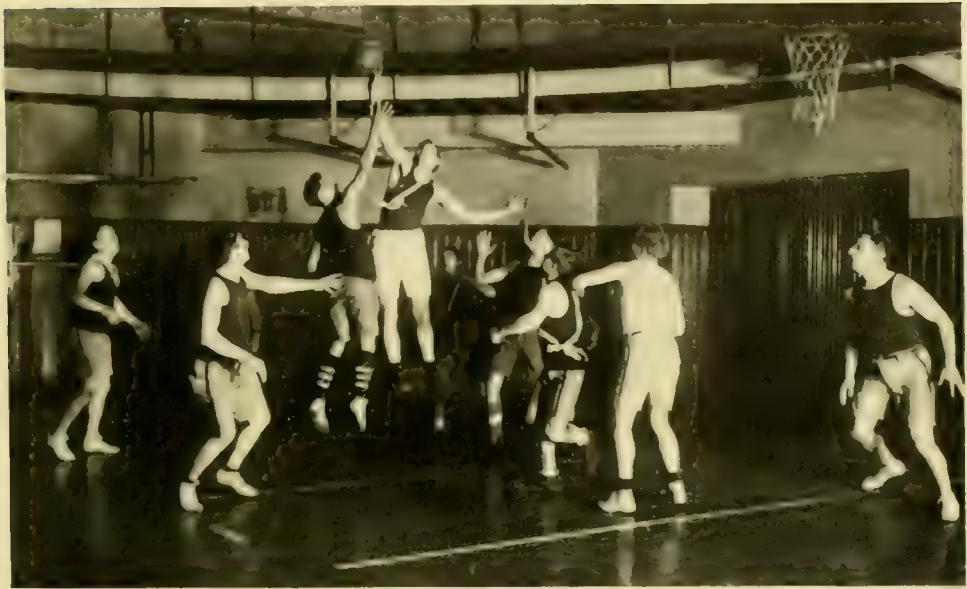
by the sensitive emulsion of the plate or film. The claim that the lens is always open to the free, uninterrupted passage of light has no other merit than that of veracity; it has no asset value otherwise, as a moment's thought will show. As the sensitive emulsion occupies the one and only focal plane, it follows that the slit in the blind of the focal plane shutter can only be erected in a plane in advance of the focal plane. The space intervening between the focal plane and the face of the curtain will determine largely the efficiency of particular shutters of this type. It requires but a slight advancement of such a slit in front of the plate to secure an image double the width of the slit itself. This one can determine for himself by holding, in a fixed position, a slit of given width, and examining the image on the ground glass. One can, by calculating each detail by rule applying to the stoppage of motion, determine the required speed for some known rate of motion of some given object, with a known distance and focal length of lens, and then fire away. He will then be in a position to determine whether or not one one-thousandth of a second with a one-eighth inch slit is really that, or, owing to the vignetting of the slit, but half that speed. He will then understand why he sometimes reads that: "The movement was too fast for the camera man." With a larger lens, working at an aperture large in illumination, focal plane shutters reach their maximum efficiency, but they do this at the cost of loss of depth of field, as the wider cone of light is vignetted off correspondingly. This in turn makes the work of securing sharp negatives quite hazardous except with those having long and constant practice and experience.

The latest claimant to our attention, the Multi-Speed shutter, seems to embody in its structural anatomy many desirable features. Invented in this country, it has found its greatest favor, or rather, found quicker favor, among European photographers of a scientific and investigative turn of mind. In the true sense of the word, it is a "set" shutter, with a spring tension readily adjusted over an exceedingly wide range. Being an inter-lens shutter, distortion of moving objects is simply impossible. In efficiency, particularly at ultra rapid speeds, it easily excels any other type of shutter now on the market.

Originally, the makers of this new shutter were confronted with no greater skeptic as to their claims than was the writer of this article. Adverse criticism by writers who had gained prominence through their prolific output created doubt. On the other hand, correspondence with the makers, who, in effect, said: "Let us ship you a shutter on trial and if it does not do what we say, send it back," invited investigation at first hand. The small size was procured and fitted to an anastigmat having a free aperture of f-6.8, as well as to one of f-4.5. The camera used was also fitted with a multi-slit focal plane shutter, the Multi-Speed shutter serving as a lens mount only when the other shutter was in use.

Looking about for a suitable subject for testing the performance of the new shutter, something with a constant "index," a circle swing was selected. That device, as all know, involves a mass of right angles, horizontals, perpendiculars, with a wagonload of tangents thrown in for good measure. Obviously, the first determination was the circumferential speed of the device. The

PHOTOGRAPHIC SHUTTER CHARACTERISTICS



RAPID ACTION. MADE WITH FLASHLIGHT ATTACHMENT

maximum diameter of the circle of motion of the swing cars, multiplied by the decimal 3.1416, gave the circumference; and, multiplying the result by the number of revolutions per minute, gave the speed. Knowing the focal length of the lens and the speed of the subject, a tape line established the correct distance of the camera. Upon completion of my tests, these and supplementary



ONE STRIKE BALL OVER RIGHT SHOULDER

CAMERA CRAFT

ones upon running horses and automobiles, the f-4.5. lens was returned to the maker and the bulky focal plane device was laid aside as less satisfactory in my hands.

It must be understood that the writer is of an investigating turn of mind and has tried to prove, to his own satisfaction at least, such points as seemed to demand more than blind acceptance. One of these was the importance of the time interval involved in the travel of the light rays from the axis of the lens to the sensitive plate after the blades of the shutter had started on their uninterrupted cycle. Any high school pupil will assure us that the travel of light rays is standardized as being one hundred and eighty-six thousand miles per second of time. In a period of time amounting to one-tenth of a second it travels eighteen thousand six hundred miles, and in one one-hundredth of a second, one-thousand eight-hundred and sixty miles. In one one-hundred thousandth of a second, light travels nearly two miles; one and eighty-six one-hundredths, to be exact. That distance is somewhat in excess of the few inches between the lens and plate of an ordinary camera. If your lens has a focal length of, say, seven and five-eighths inches, you can get a gross of pencils and a ream of paper and figure out just how long it takes light to travel that distance at the speed given.

But to return to our last two forms of shutters; the photographer lacking the requisite sense to enable him to negotiate a bottle of pop or assume the responsibility of chief engineer of an alarm clock, would better hold hands off. Neither is absolutely fool proof and both demand the exercise of some common sense. It must be remembered that with every instrument of precision, as refinement in operating details is attained, is demanded a higher order of intelligence at a condition precedent to success. With the Multi-Speed shutter, for example, exposures as slow as one-fifth second are easily accomplished if one will but learn the individual characteristics of his tension spring. Until science has found a way to make two springs exact duplicates of each other, some such interpretation will be necessary.

Despite my satisfaction in the wide range of the shutter just mentioned, the simple, single-valve, automatic shutter is occasionally employed to secure results otherwise impossible. Reference is had to the photographing of lofty water falls together with their confining banks. If one times to stop the water, gross under-timing is at once apparent in the rocks and surrounding landscape; per contra, timing for the latter results in the water looking as if it had been subjected to the mercy of a Chinese laundry. But, by using the simple automatic shutter and giving several quick snaps in as rapid succession as possible, detail is secured in the ambankments with laundrying our waterfall.

The lens usually employed has a focal length of six and one-half inches, with a free exposure of f-6.8. With it, I have practically no focusing trouble, a lens of that specification has a depth of field that makes ultra-refined focusing unnecessary. With the focus set at twelve feet, the field, sharp within a circle of confusion of one one-hundredth of an inch, extends from a distance of nine and one-half feet to one of fifteen and one-half. At fifteen feet the depth is from eleven and one-half to twenty-one feet; at twenty, from fourteen to thirty-

PHOTOGRAPHIC SHUTTER CHARACTERISTICS



A FULL-TIMED ACTION PICTURE

two and one-half; at thirty feet, from nineteen to seventy; while at the fifty-foot focus, the depth of field extends from twenty-five to practically infinity. It matters but little where the focus is set, provided only that it is within the proverbial "seven rows of apple trees" of being correct.



CAMERA CRAFT

Another point to assimilate is this: Speed photography is a relative term only. One-fifth second can, under certain adverse conditions, become a relatively shorter exposure than would be, say, one five-hundredth of a second, or even a true one-thousandth of a second made under favorable conditions. A two-dollar box camera can and will stop the fastest train that travels on a track; but,—not from a near distance. It might be necessary to get so far away that the train would be hardly discernible on the plate; but it would be there just the same, and stopped “dead” at that. From this it is apparent that more expensive equipment is essential only when one aspires to contact prints showing the principal object of reasonable size.

If one wishes to improve his outfit so as to be able to go after speed work, and yet balks at the price of an anastigmat lens, he will find that he can get most excellent results with his rapid rectilinear lens, providing only that it has an aperture of f-8. If it cover the plate to his satisfaction and he limits himself to illumination conditions that justify an aperture of f-8, much is within his capabilities. In numerous instances the writer has demonstrated that such a lens was sufficient, in good light, for almost any desired rate of speed action. With such a lens and a good light, the speed of the fastest trains can be stopped at a distance approximating thirty feet. With its f-8 stop and the focus set at thirty feet, the depth of field will be substantially from eighteen feet to infinity. No great need of careful focusing on such a basis. All that is needed is a shutter that can give the speed and a direct vision finder. Intended investigators should not select a lens with a greater aperture than f-6.3, and the writer prefers f-6.8 with the Multi-Speed shutter. He would not employ an aperture greater than f-6.3 were the lens a gift. The resultant illumination with one of these lenses will surprise one, even when using top speeds.

And now, gentle reader, this is but the beliefs and faith of one amateur photographer. Some of the points touched upon are moot questions, but because some one else has tried and failed is no assurance that success is not quite easy. Prejudice, unfortunately, too often is allowed to influence. The inquiring mind, seeking after truth, has a most tortuous road facing his advance. Personal investigation and a little sane reasoning, and one can at least have the satisfaction of feeling that he has learned what really best serves his particular purpose.
Verbum sat.



Photographing Sunset Effects

By Horace Sykes, I. P. A. 2327



With Illustrations by the Author

Sunsets, those accompanied by clouds, make admirable subjects for the camera, not only as pictures of sunset effects, but as moonlight pictures when printed a little darker than is desirable for sunset representation. Unfortunately, many regard them as being beyond the skill of the novice, believing their portrayal an undertaking to be attempted only by the advanced camerist. For this reason many workers lack the courage to enter this most interesting and unique field of photography. It is surprising how many camerists wander along the beaches or by the lake or stream, camera in hand, watching the ever-changing beauty of the sunset, or sunrise, as the case may be; admiring the phantom-like cloud forms, awe inspired by the grandeur, only to sigh and say: "Oh! for a picture of such a grand scene," fully assured that their camera is inadequate to record such subjects. They recall the warning of the kodak salesman who told them they must always have the sun behind them; possibly remember some unprintable negative that resulted from letting the unclouded sun strike the lens from in front, perhaps call to mind the admonition of some know-it-all brother camerist to never point the camera at the sun.

Photographing sunsets is not at all difficult, even with the most inexpensive cameras. The most beautiful aspects of sunset and sunrise are well within the scope of any camera. All that is required is a non-halation plate, or a film; some measure of patience, and good judgment in the matter of what will give the best rendition in black and white. It is on this last point that the inexperienced is most likely to go astray. Many sunsets owe their beauty to the high coloring that is sometimes seen. Such are liable to be disappointing when translated into the monochrome of the print. In addition to the loss of color effect, the visual contrast may also be lacking. The yellows that contrasted so strongly with the blues may come out even darker than the latter, resulting in a picture with hardly a vestige of the beauty of the original scene. Until one has achieved a little experience in the matter it is well to watch the changing beauty of the cloud forms through a pair of blue glasses or even a small square of the blue tinted glass. Either will reduce view to almost the same monochrome effect that will be found in the finished print. One will learn that banks of low lying clouds, to the eye having very little contrast with the sky beyond, will come out quite pronounced in the print, owing to their inclination to photograph darker than they look while the sky, being blue, photographs somewhat lighter than it appears to the eye, particularly with a short exposure. It is a fragment of this kind of a cloud that makes the best screen for the orb of the sun during the exposure. A slight veiling by such a cloud will prevent all damage such as would result to

CAMERA CRAFT

the image if the unscreened sun be inclined in the view. Just the mere fringe of such a cloud will suffice to make the sun amenable to the requirements. One can often obtain, by waiting a few minutes, such a condition, even while the water in the foreground is sparkling in the unscreened rays that reach that far yet not to the camera.

Making the best possible selection of a view point and composing the picture roughly with reference to a desirable foreground, one has then only to await the right cloud formation with the sun itself more or less obscured by a portion of the clouds, and then press the bulb, giving one one-hundredths of a second with a fairly large stop, develop for softness, and the deed is done. And I can assure you, your first sunset negative, nine times out of ten, will be a pleasant surprise. When the sun has passed out of sight below the horizon, the exposure must, of course, be lengthened, owing to the weaker light. The first illustration herewith, "Sunset, Nye Creek," used as a frontispiece, was taken just after the sun had passed from sight, and an exposure of one second was given with stop f-5.6. It



EXAMPLES OF WHAT AN INEXPENSIVE KODAK CAN DO IN THE FIELD

PHOTOGRAPHING SUNSET EFFECTS



FOULWEATHER LIGHTHOUSE

was made on a double coated orthochromatic plate, without ray filter. The exposure was just right for the effect desired, and required no doctoring or dodging, either in developing or printing. The picture titled "Foulweather Lighthouse," was made nearly an hour before sunset, the sun being obscured by fairly heavy clouds. The same kind of a plate was used as for the last, but the exposure given was one one-hundredth of a second, stop f-16. Like the other it is a straight print from a straight negative.

The four small prints shown are examples of what an inexpensive kodak can do in this field. Films, being practically non-halation, are well adapted to the work. They were all made with stop f-6.3, the exposures ranging from one twenty-fifth to one one-hundredth of a second. It is interesting to study the effect of the spray against the light as shown in two of these smaller prints. All these film were developed in a tray, using Rytal universal developer.

In my own practice I secure the best results in this field of work by using non-halation orthochromatic plates and developing them for at least thirty minutes in a tank. The tank method seems to preserve, to a greater degree, the feathery detail of clouds, while giving a transparent quality to the high lights that I have never been able to secure by tray development. My favorite tank formula is the Cramer Pyro-Acetone, one that can be found in any of the Cramer booklets or formula sheets that comes with their plates. Other formulas are no doubt as good, but none that I have tried suit my individual requirements as well.

The reader has, perhaps, noticed that I have practically assumed a water foreground for this class of subjects. While good sunsets can be made with an

CAMERA CRAFT

ordinary landscape foreground, they are never quite as effective. Water requires less exposure, and for that reason the comparatively short exposure given sunset pictures is less liable to be objectionable in the under-exposed foreground of water than it is in the case of ordinary foregrounds. Besides, water often gives a pathway of strong splashes of light that carries the interest down to the bottom of the picture in a way that adds much to its charm. And another reason lies in the fact that a foreground of water is less obtrusive, less inclined to detract from the real subject of the picture, the sunset itself. Its level surface contrasts so perfectly with the cloud forms, setting them off to an advantage that would require considerable skill in the use of a foreground of more varied form and contrast.

And these pictures of sunsets lend themselves most admirably to coloring. A friend of mine, an amateur colorist with transparent water colors, has six prints of this character, all from the same negative, but each colored entirely differently, and hardly any two persons will pick out the same one as the most pleasing. And with coloring, proper, aside, the most charming effects of color can be secured by the photographer in printing or by after staining of the entire print. A black and white print stained in a solution of reddish-orange dye, as portraits are treated for firelight effects, gives a very fine result. Carbon prints put down on a red, orange, or golden yellow final support, give very realistic and beautiful effects.

To live in beauty—which is to put in four words all the dream and spiritual effort of the soul of man.—WILLIAM SHARP.



SCENE ON THE SALAMONIE RIVER, INDIANA
312

By JOHN F. FENSEL

A Few Notes On Developing Paper

By G. S. Smallwood



With Illustrations by the Author

Professionals, as well as amateurs, sometimes have trouble in the printing and manipulating of developing papers, commonly called gas-light papers. But when trouble does arise, it can be safely assumed as being due to either carelessness or a disregard of the printed instructions furnished by the manufacturers. The paper has reached such a high state of perfection in the last few years that it is practically above suspicion. So many surfaces are available and so many different tones obtainable that the individual taste of any and all photographers can be gratified. This has caused it to become the most popular paper in use today.

Personally, I have had success with the paper from the start, and I started to use it several years ago. I have used practically every brand that has been on the market to an extent sufficient to bring it to my attention. And, while they each have their little peculiarities and their individual characteristics, all worked well in my hands. For that reason a few rambling notes from my pen, a jumble of experiences and advice, may be of interest to readers of this magazine. To lay down, in a dogmatic manner, instructions for the handling of gas-light papers would be needless, even were it possible to be final and thorough in so doing. Practically every manufacturer of such paper issues a little manual of instruction and I could sum up the whole matter in the simple bit of advice: Follow the maker's instructions implicitly. Some brands give softer prints as the developer is made stronger; others respond with harder prints under the same treatment. Iodide added to the developer will prevent abrasion marks on some brands, while it results only in general fogging of the highlights on others. Each maker's instructions should be followed closely. The worker must not imagine that they are all alike and the manipulations that gave good prints with one brand should do the same with another. It is this disregard of instructions that leads to ninety-nine per cent of the trouble that some workers have. Just recently I found an amateur mixing up his developer from an M. Q. tube and diluting it with water as for plates. He had not even read the directions on the label to the extent of learning that but half the amount of water should be used in mixing it up for gas light papers.

The best printing light that I have been able to find is the inverted gas mantle. They cost but thirty cents and are guaranteed for three months. Mine has been in use for four months and is apparently as good as new. I find I get the best results by printing at a distance of twelve or fifteen inches. Normal negatives require about seven seconds on the fast papers, the slower papers requiring up to thirty seconds at the same distance. If the head and shoulders

CAMERA CRAFT

are a little too dense for the rest of the negative, I hold that end of the frame in line with the light, and if the other end of the negative requires more printing, hold that end nearer. The light being an inverted one, the frame can be placed on bench or table below it, leaving both hands free for any dodging that may be necessary.

The great secret of good prints is right timing. One should find out the time required for development for the best results and then so time the prints that they develop in just that time. The best way to do this is to mix up a developer strictly according to the maker's formula and then so time a print, using a watch or clock, that it comes up gradually and then ceases, apparently, to go any further. The time required for the correct development of a correctly timed print in the developer recommended by the maker of the paper is the right time of development. It may be thirty seconds, it may be forty-five or sixty. But thereafter, if you find a print that develops too dark in the shadows in that time you can be sure it is over-printed, or, if it does not develop in that time, it is under-printed. In neither case will you get the best print obtainable, and neither of the prints will tone to a good sepia in either the hypo-alum or sulphide toning process.

In adding bromide to the developer in order to keep the whites clear, there is an easy method of finding out just how much is needed, and that is by taking a strip of the paper, unexposed, and immersing it in the developer for a trifle more than the "time of development" time. If the whites are at all grayed at the expiration of the period, a little more bromide must be added and another trial made. The makers can give no hard and fast rules, because the tendency to give degraded highlights depends upon the water being used in any particular locality. The tap water here in Chicago seems to require a good supply of the restrainer, and for that reason the above plan is advisable as indicating the least possible amount that will suffice; an over-dose, as we all know, or should know, tending to give undesirable olive tones. In localities where the water is such that a large enough addition of bromide to produce these olive tones is necessary to preserve the purity of the whites, or where very old paper is being used, it is advisable to have on hand a ten per cent solution of cyanide of potassium and use that in addition to the bromide, using half and half, but not mixing the two. That is, if four more drops of restrainer are to be added, add two of the bromide solution and two of the cyanide. This last is a strong, corrosive poison, but the small amount used is in no danger of causing trouble once it is added to the solution. Using it, one can secure an amount of restraining action impossible without olive tones where bromide is employed alone.

Personally, I get around most of these difficulties by boiling the water I use for my paper developer. After boiling for twenty or thirty minutes, I set aside to cool, well covered. It is surprising what a large amount of sediment the boiling will cause to fall to the bottom of the vessel. The boiled water is also much less inclined to give bubbles as the developer is allowed over the print. For my developing, rinsing and fixing, I use large, white enameled pans, 11x16, two and one-half inches deep, holding about two gallons. I also use

A FEW NOTES ON DEVELOPING PAPER



THE EVERY-DAY WORK OF A SMALL STUDIO—

two one and one-half gallon enameled stew pans for boiling water and for mixing up developer. These are kept scrupulously clean, and each kept for its own particular purpose.

The fixing bath should be given more attention than it generally receives. Too many amateurs prepare the bath by throwing a handful of hypo into an undetermined amount of water, paying no attention to either strength or temperature. Others mix up the bath more carefully, but use it over and over until long after it ceases to do its work properly. Even one not used very long may be in active through wrong compounding permitting undesirable chemical action within the bath itself. Whenever one is in doubt as to the fixing quality of the bath being used, it is well to cut unexposed Brownie film into small pieces and try the bath with one of these. One can see when all the undeveloped silver is removed from a piece of film, but one is never sure that a sheet of paper is completely fixed. If the piece of film fixes out clear in a certain length of time, it is safe to assume that prints, if not allowed to bank together, will fix in the same thoroughly in the same length of time. One may pay particular attention to carry out all the rest of the work in a careful manner and then, by using an old or improperly compounded fixing bath, produce prints with dirty whites, muddy stains, and soot-like blacks.

I find my customers like pictures having clear whites and full detail in



REQUIRES THE SAME ATTENTION AS MORE PRETENTIOUS WORK

CAMERA CRAFT

the shadows, with the tone a velvety blue-black; a dull surface like Artura Iris or Professional Cyko giving the most satisfaction and calling for very little retouching of the negatives. The customers who like Aristo Platino and would ask for it were they shown something on very rough or very smooth paper, accept these without a question. The portraits having good detail in the shadows with not too much in the highlights are the kind that make extra orders. Those having detail in the higher lights and none in the shadows are not wanted. Detail in both highlights and shadows seems to give too flat a picture for the general run of customers. It is money in the photographer's pocket to make the kind of work his customers want and that is why I make the kind shown herewith. In a different part of the country the demand might be for different work, but it is not hard for the photographer to find out just what is best suited to his locality.

The developing papers are a great boon, as they permit one to get out his prints at night when it is cool and he can work undisturbed. They require only a fractional part of the time necessary with some other printing processes and one can always be sure of delivering the work when promised. And all the well-known brands, as I intimated at the start of this article, will give fine results. It seems strange, but those kinds advertised regularly in this magazine appear to be the most trustworthy. As the editor told us a few months ago, it does not pay to advertise an unsatisfactory product. Any brand of developing paper that is well advertised, month after month, is a product that has merit enough to bring re-orders and it can be depended upon to give good results. If the user has any trouble with it, the fault is, in nearly every case, his own. He has but to follow the maker's instructions carefully, not that great care is required, but to see that nothing is done wrong, and success will be his.

In conclusion, as a means of emphasizing the point, I would urge the photographer, be he amateur or professional, to be most painstaking and cleanly if good results are desired. Do not leave developer or fixing bath sitting around in an open dish. Keep the used developer in one bottle or jug and the fresh in another; and, when wanted, use half old and half new. Used in that way, they seem to work better, the old ripening the new. The fixing bath should always be filtered back into a large bottle or jug, not because the air has any particular effect, but so doing keeps it clean and free from dirt. The best surfaces are semi-matte and semi-glossy, my customers preferring the former. In my experience, the slow printing papers give the best results, and where a good price is obtained, the time can be given; but where work must be turned out cheaply, a fast printing paper is more desirable.

"After all," says the popular fallacy, "it is a matter of taste." But taste is not a personal matter! It is no more mere preference than judgment is mere opinion. It is as rare as it is supposed to be common. It implies not only artistic feeling and critical power, but their cultivation, also.—LEWIS F. DAY.

STEREOSCOPIC DEPARTMENT

Stereograms On Post Cards

By C. B. Osborn



With an Illustration by the Author

Mr. Steadman, in his article in the January, 1911, *CAMERA CRAFT*, mentions the use of post cards for stereograms, but I found that my negatives, made with a Hawkeye No. 3, on $3\frac{1}{2} \times 3\frac{1}{2}$ (No. 2 Bull's Eye) film, could not be printed on the ordinary post card. In casting about for a suitable medium in ready-cut, double-weight material, I found that the Kruzo people make a post card $3\frac{1}{2} \times 7$ inches, or just the size of the usual stereo mount, and which, for me, has solved the problem satisfactorily. These cards are made in several emulsions, the glossy finish, hard, contrast, being my choice for stereo views. This size has the advantage, too, of fitting the rack on the stereoscope, and may be adapted to negatives from the Stereo-Brownie, as well.

The printing is reduced to the simplicity of printing ordinary post cards of single views, by the use of a combined mask and negative holder, which I shall attempt to describe.

An ordinary printing frame is used, but must be somewhat longer and wider than the cards. I use a $6\frac{1}{2} \times 8\frac{1}{2}$ frame. Take a plate of glass the



THINGS STEREOSCOPIC

CAMERA CRAFT

proper size to fit the frame. Cut a piece of black paper, such as photo papers come wrapped in, to a size about a half inch larger all around than the plate of glass. Wet the paper in a tray or under the tap. Then place it between newspapers and remove the surplus water. Lay the wet paper on a flat surface and place the glass flat upon it, exactly in the middle, so that a half inch of black paper will project beyond the edges of the glass all around. Turn the projecting edges of paper up over the edges of the glass plate, and secure with glue—Dennison's glue in collapsible tubes is handy and effective for the purpose. When the paper dries, it will be stretched tightly on the plate.

When dry, lay a $3\frac{1}{2} \times 7$ -inch card in the middle of the paper, and place on it a weight to hold it securely. Take white passe partout paper cut in strips about an eighth of an inch wide, and paste all around the card, so as to register accurately the position of the card on the black paper. In lieu of passe partout strips, a pen and white ink may be used to draw a line around the edges of the card, the object being to furnish a guide for placing the cards for printing, which is readily visible in the dim light of the printing room. Remove the card. Take a sharp lead pencil and ruler.

Measure inward from one end of the $3\frac{1}{2} \times 7$ -inch rectangle which you have marked out on the black paper, seven-sixteenths of an inch, and draw a line parallel with the end. Do the same for the other end. Measure three inches further inward from these lines and draw lines parallel to them. Measuring inward a quarter inch from one of the sides of the rectangle, draw a line parallel with that side; an eighth of an inch from the other side, draw another parallel line. If the lines have been drawn correctly, you have marked out on the black paper, within the $3\frac{1}{2} \times 7$ -inch rectangular space, two spaces each three inches wide by three and one-eighth inches high, each distant seven-sixteenths inch from the ends of the rectangle and with a space one-eighth inch wide between them. Also these two $3 \times 3\frac{1}{8}$ -inch spaces are a quarter inch distant from one side of the form (for the margin at the base of the pictures) and



MONTEREY FROM "EL MIRADOR"

STEREOGRAMS ON POST CARDS

an eighth of an inch from the other side (top of pictures). Use a knife that has been well sharpened at the end and carefully cut out these two $3 \times 3\frac{1}{8}$ -inch spaces. Cutting through the paper against the glass dulls the knife quickly and it should be resharpened as often as necessary to insure a clean cut. At the edge of one end of the glass, cut through the black paper, to permit of slipping the negative in between the paper and the glass. This completes the printing mask. The measurements given are correct for utilizing practically the entire negative as produced by the Hawkeye No. 3. For other negatives, the measurements may be easily determined.

The negatives, of course, must be transposed. Taking the double negative, cut it off at each end, right on the line where negative and clear film meet, being careful to cut it square. A trimming board is handiest for this, and a cheap one will do; but before using it, test it with a carpenter's square to see that it is accurate. Cut the two negatives apart through the center of the clear film which forms the septum. Transpose them, butting the two close-cut ends together and pasting a narrow strip of passe partout binding across the clear margin of film at top and bottom of the negatives, preferably on the "shiny" side, to hold them together. This way of uniting the transposed negatives obviates the difficulty of pasting a narrow strip across the middle, and holds them much more firmly. The mask attends to making the septum between the prints.

Slip the negative thus transposed in between the glass and the black paper which forms the mask. See that the septum of black paper in the mask covers the contiguous edges of the negative. The mask, being tightly stretched on the glass, acts as a holder as well, and once adjusted, the negative will usually remain in place without further attention. The printing is done at one operation. The result is a neat card with white margins, the end margins being seven-sixteenths inch, bottom margin a quarter inch, top margin one-eighth inch, and a one-eighth inch white septum between the prints.



VIEW OF TEL. MIRADOR

CAMERA CRAFT

By being printed thus simultaneously, both prints will always be timed equally. With negatives showing near objects and distant landscapes combined, where the near part of the negative is much thinner than the distant, a card may be interposed to cut off the light from the thin part until the heavier portion is sufficiently printed. This dodge was used in printing the view herewith of Monterrey from "El Mirador."

A visual supplement to the directions given herewith is afforded by the accompanying stereogram of "Things Stereoscopic." To the right may be observed the printing frame fitted with the combined mask and holder, showing a negative placed, ready for printing; to the extreme left is seen the reverse side of a similar mask, showing the method of affixing the black paper to the glass. To make this last show up better, a sheet of white paper was slipped between glass and mask when taking the picture.

Other views shown in connection with this article are: View of Monterrey from "El Mirador." View of "El Mirador" ("The Lookout"), mountain residence in summer of former Governor of Nuevo León, Gen. Bernardo Reyes, taken from the hill above the cottages.

The National Convention

Philadelphia will open its arms to the photographers of this country in a most hearty welcome during the week of July twenty-second, when the Photographers' Association of America will hold its Thirty-second Annual Convention. Philadelphia photographers are noted for their hospitality, and they have formed a local committee for the purpose of looking after and entertaining the visitors. The convention hall, the Philadelphia Horticultural Hall, is one of the most beautiful buildings in which the National Convention has ever been held, and as all the display booths will be built upon a systematic plan, with beautiful decorations and palms, the effect will be a fine one as the visitor enters the hall.

It is figured that the attendance at Philadelphia will be the largest in the history of the Association, and with this in mind the manufacturers are preparing wonderful displays, and every corner of the building will be full to repletion with pictures, apparatus, and new notions for the photographer. The lecture hall, the picture exhibit, and the manufacturers' display will all be under one roof, and right across the avenue will be the headquarters hotel—the Walton. Never before have things been so convenient.

The man who misses the 1912 National Convention will miss the best treat of his life merely from the display point of view, while the entertainment and lecture features are figured on a basis which will mark the Thirty-second Convention as "the leader of them all."

I mean by a picture,—a beautiful, romantic dream of something that never was, never will be, in a light better than any light that ever shone, in a land no one can define or remember—only desire.—BURNE-JONES.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—

THE EDITOR.

PRINTING BLACK BORDERS: Trim the film negative the exact size the picture is wanted, that is, the subject matter of the print. Then place negative on glass in printing frame and place paper over so that they are properly centered. Print as usual and when developed the print will have a black border that can be trimmed to the desired width. If glass negatives are used, the desired portion can be marked out with a penknife, cutting through the gelatine film, and all outside the selected part removed with a sharp tool. Some little skill is required for this last, while with a film negative the trimming is easily and quickly done. This method has the advantage over double printing that the print and border are made at the same time, saving time, worry and trouble. The plan, no doubt, is not new, but it may prove of interest to some readers.—
Tom C. Bonney, South Dakota.

TO CLEAN OLD NEGATIVES: Mr. Ferris, in the May issue, gives his method and said he would be pleased to hear of a quicker one. His request inspires me to give a plan that I have used with good success, a plan that is simple and one that calls for very little attention. To any one wishing to clean the emulsion from waste negatives in order to have the glass for other use, the following method will appeal on account of its simplicity. Procure a can of lye, the kind used for scrubbing, and dissolve it in from two to four gallons of water. Use a large pail, or, better still, a square can holding about eight gallons. Anything will answer just so it is large enough.

Place the negatives, one at a time, in the solution, using a sliding motion and taking care that each one is entirely submerged before putting in the next. Of course, as the solution is quite strong, care should be taken not to get it on the hands. When all are immersed, set the can aside for from eight to ten hours, or overnight. Then pour off the solution and fill the can with fresh water, doing this several times until the remaining lye is sufficiently weakened so that it will not injure the hands. Upon examination, the glass will be found perfectly clear. Should some of the film still remain on the glass, it will be found very easy of removal with a cloth and a little water. I find that rinsing the negatives under the tap is sufficient to wash away any sediment or scraps of film that remain on the glass. I do not claim originality for this method, as I learned it from another

CAMERA CRAFT

professional, but I thought it might come handy to some of my amateur friends. I was once an amateur myself and always eager to learn about anything photographic.—H. P. Westaby, Montana.

AT THE COUNTY FAIR: There are hundreds of subscribers to CAMERA CRAFT who will have something to do with county fairs about this time or a little later. It is an easy matter to get some booth to display a few copies for the benefit of the visitors who are interested in photography, and a number of subscriptions can easily be taken. It is surprising how many of the tyros who stop to examine the photographs on display have never seen a magazine devoted exclusively to photography, and they are generally eager to subscribe.—E. M. H., Wisconsin.

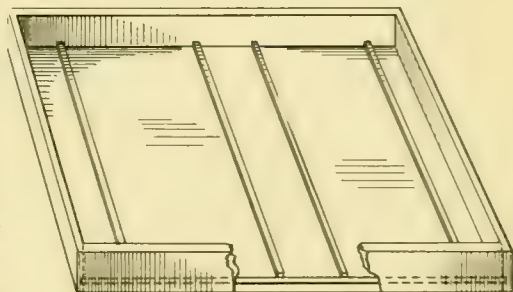
STUDIO PRACTICE: Every once in a while the statement appears that it is quite easy, compared to out-door work, to time exposures under a skylight. It is true, the range of exposures is not so great, but more exactness is required within the narrow range of studio exposures. The experienced photographer knows that the wider the range of gradation the more latitude one has in exposure. Photographing a flat surface like copying, in a soft light, requires an exactness of exposure that is quite trying. So also does a distant view where everything is softened by the large amount of intervening atmosphere. With general landscape work, the foreground may contain shadows that require several seconds' exposure, while the distance could be secured in the fractional part of a second. A short exposure will give good distance and undertimed shadows, perhaps not objectionable. Several times the exposure will give good quality in the foreground shadows, with the distance perhaps somewhat blended into the sky. Either result will be acceptable, with exposures varying within wide limits. In portraiture the matter is different. There are no such variations possible. The exposure must be such as to give good gradation and good texture in the face, while the other parts must be in harmonious relation to each other. The light changes from hour to hour, some styles of lighting require different exposures, contrasts in drapery must be considered, and even different complexions in the sitter or a change of backgrounds necessitates change in the length of exposure. The best way to judge the time is by observing the appearance of the image on the focusing screen. However, in doing this, one should bear in mind that the eye has a tendency to accommodate itself to the light around it. On a bright day, the image will appear relatively less brilliant than on a day when the light is dull, much on the same principle that one finds a room quite dim on coming in from bright sunlight, while the person seated in the room finds the light sufficient for reading and the like, quite comfortably.—G. S. Smallwood, Illinois.

REVIVING LEATHER: Occasionally the leather cover of one's camera and carrying case needs renovating and polishing, and the method adopted by the writer is simple and effective. Thoroughly blacken all scuffed and brown spots with any first-class liquid shoe polish. When dry, polish with a soft cloth. Then procure from the druggist ten cents' worth of gum tragacanth. Put this into a paste cup or an empty jelly glass, and fill the dish two-thirds full of warm

PARAGRAPHS PHOTOGRAPHIC

water. Let stand overnight. The bulk which the ounce of gum has assumed will astonish. When ready to use, add more water, and with a small sponge saturated with the gum water, give the leather a thorough coating, spreading the same on evenly and quickly. When dry, the great improvement in the appearance of your outfit will be sure to please. This mucilaginous solution is used by all harnessmakers on the finished product to give the leather the desired shiny appearance. And, by the way, this same article makes a clean and excellent paste for ordinary use. All one has to do is to keep adding water to the paste pot as long as any of the mass remains.—H. Crosby Ferris, Colorado. I. P. A. 897x.

A TRAY IMPROVEMENT: The average developing tray is a wooden one coated with some water and acid-proof paint. Difficulty is found in lifting plates from the tray on account of the suction between the glass and the flat surface of the bottom. This can be easily overcome by gluing four strips of wood, about a quarter of an inch square, to the bottom of the tray as shown in the sketch herewith.



In my own work I use 5x7 plates and develop in a Probus tray, 12x16, fitted with strips as shown. This makes it easy to pick up a plate and examine it by the ruby light without the usual difficulty of its sticking.—Harold Glixman, California.

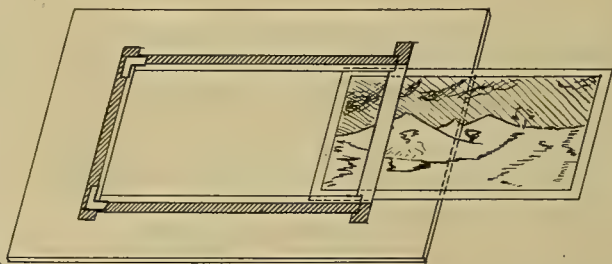
WASHING PREMO OR OTHER CUT FILMS: Purchase a number of one and one-half or two-inch flat corks, put a push-pin through one corner of negative and then push the pin into the edge of the cork, a second one on the opposite edge, taking the precaution to see that the films do not adhere at lower ends, put into a bath tub, or pail of water, if you do not use a washing machine. The corks keep the negatives at the surface, and as the hypo is absorbed by the water immediately surrounding it, it naturally, being heavier, goes to the bottom.—E. Stanley Thomas, Ohio.

THE SELECTION OF SUITABLE PAPER: I have frequently noticed, in examining the prints turned out by many amateurs, that no attention is paid to the grade of paper employed. The number of chalky prints that are set forth for one's admiration is sometimes alarming. If one speaks of the hard, soft and normal grades of paper on the market, one of which would, in any given case, improve the results, one is apparently talking in a foreign language, only to be met with the proud assertion, delivered in wonderment at your ignorance: "Why, I use Velox—isn't that the best?" Well, the question of the relative quality of any certain brand of paper is not involved when we speak of a certain grade. Velox, for example, is made in several "grades" and all equally good, though not equally well suited to individual negatives in one's collection. For the average negative, neither thin nor dense, "Regular" Velox, "Normal" Cyko, "Portrait" Argo or "Hard" Azo, etc., should be employed. For thin

CAMERA CRAFT

negatives the "Contrast" grades of paper should be used to produce vigorous prints. For negatives of considerable density use "Special Portrait" or "Soft" grades to reduce the contrast and bring out the detail in the highlights. The speed of the portrait grades is, in some cases, faster than that of the normal or contrast grades of the same brand or make of paper, so a test exposure is advisable if one is not familiar with that particular grade. But investigate this matter and compare results and we guarantee you will count it worth while.—V. A. Wood, New Jersey.

A HANDY POST CARD MASK: We will suppose $3\frac{1}{4} \times 5\frac{1}{2}$ films are to be printed from, using a 5×7 printing frame, and a white border or margin is wanted all around the edge of the card. Take a 5×7 glass and lay down a spoiled film negative thereon. Then take passe partout binding and go all around the film, covering just enough of the edge to give the required white border to the card, and sticking down the binding only where it comes in contact with the glass at the sides and across one end. The strip across one end of the film is attached only at the ends, and that part of the binding at the sides and the other end that covers the edge of the film is also left free. It will be seen that the old film can be slipped out from under the unattached end and the film to be printed inserted in its place. Two little angle pieces of white paper can be pasted on two corners of this passe partout mask to serve as register marks in placing down the cards. The illustration shows the arrangement quite clearly, I think. The unshaded portions of the strips show where they are not attached to the glass. The unpasted portions of the binding strips allow the film to be slipped out and a new negative slipped in whenever a change is wanted. The plan is, of course, applicable to film negatives of any size; in fact, one can have an individual mask pasted down on its own 5×7 glass for each size of film he may be using. Films inserted under a mask of this kind are held flat, are not inclined to shift around and necessitate rearranging each time, and the worker will find them a great convenience.—Charles Alfred Carlson, California, I. P. A. 2899.



USING A READING GLASS: Many workers are now using quite small cameras with the object in view of making their prints by enlarging. That method is an excellent one, but an enlargement is not always as satisfactory as one might think from viewing only the small image on the ground glass. I find it a great advantage to carry a large reading or magnifying glass for use under the focusing cloth, thereby getting a much better idea as to what the enlargement will show.—L. C. Bishop, Indiana.

A picture is a poem without words.—HORACE.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XIX

San Francisco, California, July, 1912

No. 7

Let Us Be Tolerant

Photography, either as a business or as a pleasure, has, in a most marked degree, an elasticity of resources. It can, with its various ramifications and through the variety of the sciences that its practice draws upon, present interesting aspects to widely differing individuals. The man who finds pleasure in mechanics has endless opportunities to gratify his taste all along the line from developing tanks to high-speed shutters. The chemically inclined has an unlimited field. The dilettante can dabble to his heart's content. The serious-minded person can take any branch of the work as seriously as he may wish. The person who is artistically inclined, or who thinks he is, can gratify his ideas of art, or attempt to do so, with more or less satisfactory results. The individual who wants only records, mere thumb-nail sketches of the scenes about him and the places he visits, will find the camera an ideal tool. Even the happy soul who has no idea of mechanics or chemistry, no appreciation of common neatness in the production of a print, much less of art or serious work, can find gratification in the results his camera produces despite its handicap.

And we must admit that the camera appeals to all these classes, and many others. And it is obvious that these widely varying types are multiplied by variations from the distinctly typical. This being the case, is it not unreasonable, and unreasonable in the extreme, for individual users of the camera to criticize the methods and results of others of the vast army of photographers? One worker will tell us that So-and-So is always buying new cameras, new material, and yet he is not able to produce a decent print. Another will complain that the first mentioned has no ideas above clear, sharp records; no idea of art whatever. Still another comes along and affirms that the last individual doesn't know the focus of his lens or the actual speed of his shutter; has an utter disregard for the essentials in correct photographic practice. And so it goes through the list. Why is it so? Why are we all so uncharitable and dogmatic? Does the artist find fault with the aims of his brother user of paints and brushes simply because the latter finds his life work in giving our houses a good honest protection of paint put on in a workmanlike manner? Do either of them find fault with the thrifty farmer who delights in plastering everything about his place with a coat of whitewash? Do any of the three quarrel with the man who is using the same tools, brushes and paints, in order to satisfy his yearning for knowledge along some scientific line of application?

Let us be tolerant of the whims and aims of our fellow camera users. If

a certain worker finds his greatest pleasure in constructing heavy, cumbersome, home-made apparatus at the cost of time and patience that would more than buy a well-made commercial article, that is his business and one of the rights that are given him under our Constitution. If another acquaintance cares only for the simple snapshots that a superficial knowledge of photography enables him to secure, he is well within his rights in shirking the time and study necessary to acquire a better working knowledge of the tools he uses. The man who cannot tolerate a photograph that violates his ideas as to sharp lens work and clear printing quality is entitled to the full enjoyment of his convictions on the subject. One man can appreciate Wagnerian music, another prefers rag-time, a third enjoys, perhaps, the hum of well-adjusted machinery. Were photography a narrow field and its only desirable end a certain class of productions, then, and then only, would we be justified in condemning any departure from that end as an aim. Let us get our own measure of pleasure and profit from photography in our own way and along the lines best suited to our own individual tastes; and, in doing so, grant the same privilege to our brother users of the lens and camera.

A Correction

On page 267 of our last issue, the June one, appeared an article, illustrated by a reproduction, dealing with aerial photography. Through an error all our own, an error due to our desire to rush in the interesting notice of this new phase of photography, the method was credited to Humphries & Rock, of Bridgeport, Connecticut. These gentlemen did not claim the method, as their letter clearly shows. They were simply kind enough to send us the photograph and a few words of descriptive matter upon which our notice was based. The credit of devising and putting into successful practice the method of aerial photography, as pictured and described, belongs solely to The Woodbury Company, of Worcester, Massachusetts. Our apologies are hereby tendered to our good friends, Humphries & Rock and to The Woodbury Company. The former wired us at once upon receipt of carbon copy of the proposed article that we had misconstrued their letter, but it was too late.

A Pacific Coast Branch

The Defender Photo Supply Company opened, on June first, a branch office at 86 Third Street, this city. This new branch is under the management of T. C. Muller. O. R. Reed, Vice-President and Treasurer of the Company, was Mr. Muller's guest for ten days recently, leaving for the home office in Rochester, thoroughly satisfied with the assured success of the new branch, a convenience long demanded by the firm's increased business in this territory. The Sunset Photo Supply Company will continue, as heretofore, to carry a full line of Defender products, the new wholesale branch materially benefiting them by assuring a full stock at all times to meet any demand. Mr. Shirpser, manager of the Sunset Photo Supply Company, is to be complimented upon the large business his house has built up for the Defender products in this territory and congratulated upon the able assistance and co-operation the Defender Company provides..

\$5,577.00 In Three Cash Prizes

Through the courtesy of the Eastman Kodak Company we are enabled to present to our readers full details regarding one of the greatest, if not the greatest, photographic competition ever instituted. The prizes are in cash, and munificent in amount; the competition is open to the world, and the conditions are such that the photographs must all be made in the pleasantest of circumstances, and the novice standing an equal chance with the expert.

The London *Daily Mail* is one of the recognized institutions of Great Britain, and has an enormous circulation. It has lent its powerful aid to many worthy enterprises, and has instituted this contest to stimulate an interest in the out of doors an amateur picture making. This contest, open to the world, is called "The Best Holiday Competition," using the word "holiday" in the same sense as we employ the word "vacation."

The first prize is one thousand pounds; the second prize, one hundred pounds, and the third prize fifty pounds, or an aggregate of five thousand five hundred and seventy-five dollars in our money.

The terms of the competition are as follows:

RULES OF "DAILY MAIL" £1000 PHOTOGRAPHIC COMPETITION.

The following are the Rules of the Competition, which competitors are advised to read carefully and keep for reference:

1. Each competitor to submit a set of twelve photographs of a particular holiday. In case of more than one holiday, a competitor may send in a set for each holiday.

2. A set of photographs must be sent in within twenty-one days of the completion of a particular holiday. The completion of the holiday is the date of returning home.

3. The last date for receiving photographs is October thirty-first.

4. Only photographs taken subsequent to May fifteenth, the date on which the *Daily Mail* first announced the scheme, are eligible.

5. For the purpose of the competition a holiday is defined as a bona fide holiday of not less than seven days' duration spent anywhere.

6. The photographs submitted need not all be taken by the competitor. They must, however, be taken by members of the party with whom the holiday is spent.

7. Competitors enter on the distinct understanding that the sole copyright of the photographs for which prizes are awarded is vested in the *Daily Mail*.

8. The editor reserves the right to reproduce in any publication any photographs sent in in competition.

9. Photographs should not be sent in loose. They may be pasted on a single sheet of, say, cartridge paper, or, preferably, in an inexpensive album.

10. No photographs will be returned to competitors.

11. No responsibility will be accepted in the event of any entry miscarrying.

12. With each entry the make and size of camera, and also the make of film or plate and printing paper must be given.

CAMERA CRAFT

13. Competitors must give their full name and address, age (if under twenty-one), and inclusive dates of holidays.

14. The scene or incident photographed must be described in a few words under each picture.

15. If necessary the winners may be called upon by the judges to submit proof that their photographs comply with the rules.

16. The decision as announced by the *Daily Mail* will be final.

17. Photographs must be addressed: "BEST HOLIDAY" Carmelite House, Tallis Street, London, E. C., England.

In the choice of the camera as the medium through which the best vacation is to be recorded, an unusual response is at once assured. It will appeal strongly to the thousands of people who already possess cameras and who have tasted the delights of keeping a picture record of vacation time.

The conditions in this competition are indeed wide. The sort of pictures that will win are those that will cause every one who sees them to remark: "What a good time you must have had!" The whole aim should be to show how you enjoyed yourself. Neither technical skill in photography, ingenuity in choosing a novel vacation, nor even an expensive vacation, is necessary for success. You are offered these prizes to prove practically that you had a happy vacation. You may have enjoyed your vacation more than any one you ever had, but your pictures must tell why. They must be so full of human interest that any stranger viewing them will exclaim: "What a splendid time they must have had!"

The judges in this competition are not going to be photographic experts. They will be men and women of the world, who, though they may be influenced slightly by bright, clean prints, will not put photographic cleverness before human interest and freshness of thought. For that reason a set of prints showing picnic parties, bathing and boating scenes, and the like, will take precedence over a set showing merely the famous sights of any one section of the country.

With such a wonderful and beautiful part of the world as ours, and with our interest as a people in all that pertains to the out of doors, to say nothing of our devotion to picture making, we should without doubt bring one or more of these prizes home to the United States.

Remember there are absolutely no restrictions as to cameras, plates or papers used, you may have your pictures finished by a professional if you wish, and also that the merest novice in picture making may win, as it is the stories the pictures tell that count. Your set of pictures must be in the office of the London *Daily Mail* by October thirty-first, 1912.

The awards are well worth while and the pleasure attached to the making of the pictures is equally great. Let us have a big representation from this country and bring home the prizes to the United States.

Enthusiasm is the all and all!—BLAKE.

Only great artists have the power to feel small in the presence of Art.—SIENKIEWICZ.

ferricyanide left in the film or paper, which compound is decomposed by the acid. With perfect bleaching and proper washing, there should be no ferricyanide left in the print, but to insure its absence care must be taken to wash the prints both back and front.

Single-Solution Selenium Toning of Bromide Prints

E. Valenta, writing in *Photographische Korrespondenz*, says:

The majority of the methods employed at the present day for sepia toning are based upon the conversion of the silver image into sulphide of silver. The silver image is first converted into some insoluble salt, upon which the sulphide solution can act. The reagent most commonly used for this purpose is a solution containing both potass ferricyanide and potass bromide, and the image so bleached in it is sulphided or toned by means of a solution of sodium, barium, or ammonium sulphide. With a view to simplifying this process, it has been recommended by several writers to combine the two solutions. Thus Mente advises a toning bath which is obtained by mixing, shortly before use, the two solutions, viz., ammonium sulphide and ferricyanide—bromide.

Another mixture, which has also been recommended as a single-solution toner, is that of Kropf, consisting of ammonium bicarbonate, potass persulphate and sodium sulphide.

In all these toning baths, sulphide of silver is caused to form the final image of the print. A method which likewise may be employed in single-solution for the production of a brown tone on bromide and gaslight prints has been brought out and patented by the Rheinische Paper Co. in Dresden. It depends on the use of a mixture in solution of sodium sulphide and selenium. The bath employed consists of a solution of ten grains selenium dissolved in six hundred cubic centimeters of one to five solution of sodium sulphide. The mixture is brownish orange in color and if stored in well corked bottles keeps well. The toning can be done either by going over the print with the above strong solution or by using a toning bath consisting of the above stock mixture, diluted five or six times with water. The tones obtained are rich brown to purple brown, the high lights assuming

some orange color, which is immediately discharged by first rinsing the prints for a moment and then placing them in a weak bath of acid sulphite. When the dilute solution is allowed to stand in the air for some time, it gradually becomes turbid, and deposits a precipitate of red selenium. As silver selenide is black, it would seem, as the toned print is of purple-brown color, that in toning there is deposition of red selenium upon the image of the print in addition to the formation of silver sulphide. The purple-brown tone would appear to be the result of these two actions. In order to ascertain the existence of selenium in the toned prints finely divided metallic silver, prepared from silver bromide, was employed in place of paper prints. The powder suspended in water was treated with the toning bath. It immediately became brownish-black, the orange-brown color of the solution giving place to one of pale yellow. The precipitate of silver was filtered off and well washed with hot water. It was dissolved in nitric acid, the silver again thrown down as chloride with hydrochloric acid, the filtrate evaporated to dryness, and the residue dissolved in hydrochloric acid. On addition of sulphurous acid, there was a red deposit formed of selenium, showing that the silver had taken up selenium as the result of the toning.

These facts fully confirmed the assumption that in toning prints with the selenium mixture, red selenium is deposited on the image.

I have made further experiments, to see if the process of toning by deposition of the selenium can be hastened by addition of reducers. The presence of small quantities of hydroxylamine salts to the toning bath produced no reduction in the time of toning, but even acted unfavorably in producing a strong orange color in the high lights. More rapid toning is obtained by addition of five to ten cubic centimeters of one per cent pyrocatechin solution to fifty cubic centimeters of the concentrated bath diluted with two hundred cubic centimeters of water. This bath gives a sepia-brown tone in a few minutes, and a very agreeable purple-brown print on longer action. The high lights are only slightly toned and are readily cleared in a sulphite bath. *British Journal of Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Some Improvised Backgrounds

The average amateur is frequently called upon to exercise his skill in the line of home portraiture, and called upon to do so quite unexpectedly. The first thing that he regrets not having available is a background. The willing subject cannot understand why the side of a house or a lot of porch steps and railing are objectionable. He fails to realize that while these objects do not claim any attention in the view itself they do claim the major portion in a photographic representation of a subject before them. The photographer realizes it, and regrets not having a background with him, little knowing that there are backgrounds all around him. I was once called upon to take a bust picture of an elderly man, a character of some note, living in a box-like little story-and-a-half house standing in the center of a bare lot. The picture was made out-doors, with a natural background, one that printed almost black, and yet the old gentleman was not asked to leave the yard. Surely one would expect to find a nicely graded dark background in such a situation, but one was there. It was simply the interior of the basement of the shack, taken behind the figure of the sitter as he posed in a chair directly in the doorway. While the light in the basement was sufficient to allow me to see objects within, it was so poor that it came out nearly black in the print, owing to the short exposure given the subject in the good light at the door. I could have darkened the basement so that the background would have come out perfectly black, but that would have made the figure look as if cut out and pasted on a black card. Some little gradation was wanted so that atmosphere might be suggested. And one can always find such a door available, a door behind which the room can be made fairly dim as to light. Even one end of a porch can often be so shaded that it will come quite dark behind a figure posed well for-

ward of the shaded portion. The reader may perhaps recall some examples of home portraiture in which the background was dark and atmospheric and wondered just how this result was obtained, while his own efforts came out with the wall paper and other things back of the sitter obtruding upon the attention. It is all a matter of throwing the space back of the sitter in more or less deep shadow. It is working on the same principle as posing the subject before an open door with a darkened room behind. Of course, if that darkened room be used as a storehouse for old lumber, broken furniture, and the like, as was the case with the old gentleman's home, it is advisable to make the darkness sufficient to give a black background effect. But these improvised backgrounds can always be found. One amateur of our acquaintance uses the large doorway of his garage; another uses the window of a dining room on the ground level, seating the subject inside the room while the camera is out on the lawn, and so on. And speaking of this lawn reminds me of another expedient this same amateur recently employed. This lawn is very narrow, but it contains a pretty tree trunk overgrown with ivy and supported at its base by some striking foliage plants. A figure seated there would have a most charming effect were it not for the well lighted row of houses and back yards beyond. Finally, after several trials with the hope that certain hours would give these distracting objects less prominence, the burning of some brush in one of the other yards gave him an idea. He got some hay from the barn, dampened it just enough so that it made a lot of smoke in burning, then set it on fire at the edge of his own preserves and made the exposure while the smoke was rising and obstructing the objectionable view in the distance. The effect was very pleasing, much the same as a delicately clouded one would have given had he had one large enough to be used so far back of the sitter.

THE AMATEUR AND HIS TROUBLES

Per Cent. Solutions

Several of my correspondents have recently brought up the question of making up per cent. solutions that would be absolutely accurate. If I can do so without appearing to endorse slipshod methods, I would like to assure all of them that absolutely accurate compounding of formulas made up on the per cent. basis. It is evident that the authors of such formulas had no such exactness in mind, else they would give the amounts in another form. Obviously, were it important that a certain definite amount was used and that amount only, we would find such formulas calling for per cent. solutions of a fraction nature. This solution would have to be of a strength of seven and five-eighths per cent., another of nine and three-fourths per cent., and so on. Even that would not be absolutely correct without a definite understanding as to the temperature of the water employed. About as good a way as any is to multiply the per cent. figure by four and add to the result the tenth part of itself. This gives the grains per ounce. This needs only to be multiplied by the number of ounces of solution required. Let us suppose, for example, that we wish to make up eight ounces of a five per cent. solution. Four times five is twenty; adding two makes twenty-two, and eight times that is one hundred and seventy-six. We therefore need only to weigh out one hundred and seventy-six grains of the salt and dissolve in eight ounces of water.

Mounting Prints On Cloth

An Iowa reader wants to mount some prints on cloth so that the extension strip of cloth at one end can be used to bind the prints album form. We suppose the work is commercial and wanted in the form of glossy prints. The usual practice is to squeeze the prints onto ferrotype plates and paste on the muslin while they are damp, leaving the desired strip of muslin at one end. When dry the prints strip as easily as if not pasted, and they can then be trimmed on three sides and the strip of muslin extending over the remaining end can be folded back on itself to get a double thickness that will make a stronger hinge. Some workers insert a strip of heavy paper at the end before folding over the cloth on itself and that causes the part to be bound to be

as thick as the part given to the pictures, making a very neat job.

Fireproofing Fabric

Other than woven asbestos there is hardly any such thing as a fireproof fabric. But any ordinary cloth can be made fireproof to the extent that it will simply smoulder if subjected to a flame, not bursting into flame itself. Immerse the fabric in a solution made up as follows:

Borax 1 ounce.
Ammonium phosphate..... 8 ounces.
Water80 ounces.

Wring out and hang up to dry. The fabric should be given an occasional soaking every few months. It is a good plan to sew the end of a small strip of the same material to the article being fireproofed as above, when, by tearing off a piece of this strip and trying it with a flame at intervals, one can judge when a renewal of the fireproofing is required.

Varnishing Prints

An Ohio correspondent wants to know how he should go about it to secure the brilliancy or gloss he finds on some redeveloped prints made by a professional, samples of which he sends. Make up the following:

Alcohol16 ounces.
Gum Sandarac..... 2 ounces.
Oil of Lavender.....½ ounce.

Apply to the print with a tuft of cotton and then polish off with a soft rag, working in long strokes from top to bottom and then across from side to side. Another formula calls for heating beeswax and then adding turpentine until the mixture is just about the consistency of thick cream when cool. Apply in the same way as advised for the above.

Strength of Sodas

In answer to a Pennsylvania correspondent. Taking sodium carbonate crystals as a standard because the most commonly used in developing formulas, the same amount of alkali is contained in five ounces of dix carbonate, and in six ounces of carbonate of potash. Dry or anhydrous carbonate of potash is not sold. One ounce of the dry or granulated sulphate of soda is equal to two ounces of the crystal form of the same salt. These figures are, of course, not exact, but close enough for all practical purposes.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The California Album

Mr. Thomson advises that the last California album, the fourth, has just started on its rounds, and that it is meeting with the highest approval as signified by the letters from those first reached. We feel sure that a much larger number of the California membership would avail themselves of the pleasure to be derived from the visits of the albums gotten out by Mr. Thomson if they would but contribute a few prints for the next one and ask him to put their names on the route list.

A Post Card Record Book

There has just come to our desk samples of the post card record books being gotten out by O. H. Hovey, of Perry, Oklahoma. It is intended for the use of those exchanging post cards and prints. The five-cent size is ruled to carry a record of one hundred cards, while the twenty-five cent size is cloth bound and will record five hundred. If our members would use one of these neat little record books there would be little danger of duplication and neglect, and much time and annoyance would be saved. Send Mr. Hovey the proper amount and get one of these record books for trial.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

Harry Gordon Wilson, Director Stereoscopic Division, 4954 Washington Ave., Chicago, Ill.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's

number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

FOREIGN SECRETARIES.

French—Charles A. Wagny, 247 Torrence St., Punxsutawney, Pa., U. S. A.

German—George N. Baumiller, Nutwood, Ohio.

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Alaska—P. S. Hunt, Valdez.

California—Sigismund Blumann, 3159 Davis St., Fruitvale, Cal.

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Georgia—L. O. Surles, 231 E. Pine St., Atlanta.

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Iowa—C. E. Moore, Eddyville.

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Minnesota—Leonard A. Williams, St. Cloud.

Mississippi—Emory W. Ross, Institute Rural Station, Edwards.

Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.

Nebraska—Miss Lou P. Tillotson, 1305 South 32d St., Omaha.

New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.

New York—Louis R. Murray, 17 Hasbrouck St., Ogdensburg.

New Jersey—Burton H. Allbee, 103 Union St., Hackensack.

North Dakota—Jas. A. Van Kleeck, 619 Second Ave. North, Fargo.

Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.

Pennsylvania—L. A. Sneary, 2822 Espy Ave., Pittsburg, Pa.

South Dakota—C. B. Bolles, L. B. 351, Aberdeen.

Texas—Emmett L. Lovett, Roby.

Utah—John C. Swenson, A. B., Provo.

West Virginia—William E. Monroe, Box 298, Point Pleasant.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

NEW MEMBERS

- 3353X—H. F. E. Johnston, Box 170, Warsaw, Mo.
Views of river, bluffs, buildings, street scenes, and general scenery; for anything of interest. Class 1.
- 3354—F. J. Reynolds, 164 High St., Maldon, Essex, England.
Post cards, printing-out paper, of scenery, buildings, outdoor subjects, etc.; for the same. Class 1.
- 3355—Thomas H. Langford, Scotch Education Dept., Whitehall, London, England.
3½x5½, bromide, of pictorial subjects; for the same. Post cards only. Class 1.
- 3356—Bert Gilmore, Box 122, Wilkeson, Wash.
5x7 or smaller, various papers, of scenery and industrial subjects, in fact almost any kind requested; for marine, falls, outdoor and general scenery. Class 1.
- 3357—W. E. Turner, 4217 Calumet Ave., Chicago, Ill.
Up to 5x7, developing paper, of Rocky Mountain scenery, Chicago parks, Chicago streets and buildings, lake and marine views; for mountain scenery, farm scenes, animals, marines and views of general interest. Desire to exchange prints, post cards, and lantern slides. Good work only sent and accepted. Class 1.
- 3358—Asa L. Brower, Kamas, Utah.
Class 2.
- 3359—Oscar Kurzer, R. F. D. No. 4, Sebewaing, Mich.
Class 2.
- 3360—Clifford Smith, R. F. D. No. 1, Box 57, Antioch, Ill.
6½x8½, developing paper, of general subjects; for the same. Class 1.
- 3361—J. E. Winter, College View, Neb.
3¼x5½, developing paper, of local views, also views taken in China; for views, Western mountains, and Indian subjects. Class 1.
- 3362—H. H. Clarke, care Forest Service, Missoula, Mont.
Class 2.
- 3363—H. O. Howard, Kelowna, B. C., Canada.
Class 2.
- 3364—Ray L. Fisher, Box 167, Winnemucca, Nev.
Class 3.
- 3365—O. S. Fowler, Hopedale, Ohio.
Class 2.
- 3366—E. H. Willihan, Wilkeson, Wash.
Class 2.
- 3367—Arnold F. George, Porcupine, Ontario, Canada.
1½x2½, and 3¼x1½, developing paper, of general mining camp views, and portraits; for the same, also general views and portraits. Class 1.
- 3368—Herman J. Westwood, Fredonia, N. Y.
2½x4¼, 4½x6½, and enlargements, developing papers, of athletic, moving objects, and figure studies; for general views. Class 1.
- 3369—A. D. Oliver, Box 623, Lowell, Mich.
Class 2.
- 3370—Robert Humphrey, Taunton, Mass.
Post cards, 5x7 and 8x10, developing papers, of landscapes, street scenes, etc., in England, India, and different sections of the United States; for anything of real interest. Prints and lantern slides. Class 1.
- 3371—Joseph Simon, U. S. S. "North Carolina," care Postmaster, New York City.
Post cards, developing papers, of views, foreign, pictures of noteworthy events, life aboard ship, etc.; for views of noteworthy events and scenery. Post cards only. Class 1.
- 3372—George M. Nicholson, Zand, Va.
2½x4¼, 3½x5½, 4½x6½, developing, of general views, landscapes, and outdoor views, for mountain scenes, landscapes, and anything of interest. Only best work offered and desired. Post cards and prints. Class 1.
- 3373—C. B. Dunwiddie, Box 114, Princeton, Ore.
Class 2.
- 3374—B. W. Looson, Quatana, Van Is., B. C., Canada.
Class 3.
- 3375—Harvey G. Grofe, Royertown, Pa.
2½x4¼, 3½x5½, developing papers, of general views, for anything interesting and pictorial, old ruins and water scenes. Class 1.

RENEWALS

- 1553X—George P. Morgan, 20 Pontecanna Road, Cardiff, England.
4½x6, 3½x5½, and stereos, of historical places, old ruins, castles, and cathedrals. Would exchange a few stereoscopic views for stereo views of good subjects on printing-out paper. While in Class 2, would reply to any post cards of good subjects and technique, any paper.
- 2057X—James Dunlop, R. F. D. No. 33, Placerville, Cal.
Post cards only. Class 1.
- 2285—C. A. Holman, Dredge North Bank, Cooks, Wash.
Class 3.
- 2498—Dr. B. B. Sprout, 516 W. Fourth St., Williamsport, Pa.
3¼x5½, 5x7, and 6½x8½, developing paper, of general views and landscapes; for the same. Class 1.
- 2562X—Z. T. Rawlston, Hixson, Tenn.
Post cards of local scenes and views. Will exchange hand-colored cards when desirable. Class 1.
- 2719—J. H. Catton, Box 324, Honolulu, T. H.
3¼x5½, 5x7, and 6½x8½, developing paper, of general views and landscapes; for 3¼x5½ views. Class 1.
- 2758—U. P. Stewart, Box 706, Westport, Ind.
3¼x4¼, and 4x5, developing papers, of landscapes, animals, child and flower studies; for the same. Prints and post cards. Class 1.
- 2768—Emmett Lovett, Roby, Texas.
(Was Stamford, Texas.) Class 2.
- 2795—Harry A. Johnson, Simcoe, Ont., Canada.
Class 1.
- 3327X—John A. Maul, Route 1, Plevna, Kan.
Post cards, developing and printing-out papers, of general subjects; for anything interesting. Post cards only. Class 1.
- CHANGES OF ADDRESS
- 191—Mary E. Tuttle, 1555 La Salle St., Chicago, Ill.
(Was 165 E. Main St.)
- 1619—Ed Carter, 1109 Arizona Ave., Trinidad, Colo.
(Was 1224 Arizona Ave.)
- 1849—E. M. Child, Box 355, Kalispell, Mont.
(Was Conrad Bank Bldg.)
- 2144X—W. M. Horton, Seward, Okla.
(Was Osage, Okla.)
- 2620X—L. E. Whitford, Shelton, Neb.
(Was Fremont, Neb.)
- 2638—L. C. Barrett, Mountain Home, Idaho.
(Was 1615 N. 7th St., Boise, Idaho.)
- 2688—Chas. C. Ferris, R. F. D. No. 3, East Syracuse, N. Y.
(Was Box 693, Syracuse, N. Y.)
- 2710—G. M. Wolfe, Woodburn, Ore.
(Was Quinalt, Wash.)
- 2829—C. A. Krawinski, Alaska Radio Expedition, U. S. N. A. Nero, care Postmaster, San Francisco, Cal.
(Was U. S. S. Fenner, Valparaiso, Chile)
- 2980—H. C. Wilson, Jr., 1252 Agnes Place, Memphis, Tenn.
(Was 1103 Union Ave.)
- 3012—Theo. Schwartzertoth, Neosho Falls, Kan.
(Was 101 Box 140)
- 3025—Felix Cremer, Pachuca, Hidalgo, Mexico.
(Was Neodhas, Chile)
- 3027—C. F. Small, 4319 43d St. S. E., Portland, Ore.
(Was 428 Kentworth Ave.)
- 3099—J. D. Sellars, 1141 Fort St., Victoria, B. C., Canada.
(Was Victoria, B. C.)
- 3102—P. Austin, Bartles, Miss.
(Was Meridian, Miss.)
- 3109—Richard L. Rogers, 718 N. New Jersey Ave., Atlantic City, N. J.
(Was 36 N. New Jersey Ave.)
- 3112—R. P. Clark, care Butte Valley Plant, G. W. P. Co., Butte Valley, Plumas Co., Cal.
(Was Redding, Calif.)
- 3130—J. P. Fitzgerald, Valley City, N. D.
(Was Washburn, N. D.)
- 3171—J. P. Neely, 376 Highland Ave., St. Louis, Mo.
(Was 171 East Ave.)
1. S. Smith, 1617 Shattuck Ave., Berkeley, Cal.
(Was 1307 Clough St., San Francisco, Calif.)
- Kenneth Spencer, 36 N. Wabash Ave., Battle Creek, Mich.
(Was 471 Maple St.)

OUR BOOK SHELVES

"The Dictionary of Photography"

A Ninth Edition of Wall's "Dictionary of Photography" has just been issued. This standard work for photographers has been greatly enlarged and now numbers seven hundred and forty pages. The latest edition is practically an entirely new book, having been thoroughly revised and brought up to date.

Special articles and additional matter written by Thos. Bolas, F. I. C., F. C. S.; F. J. Mortimer, F. R. P. S.; T. Thorne Baker, F. C. S., F. R. P. S.; F. Martin Duncan, F. R. P. S.; F. C. Lambert, M. A., F. R. P. S.; A. H. Blake, M. A.; C. H. Hewitt, F. R. P. S.; A. J. Newton and W. Ethelbert Henry, C. E., render the book an invaluable addition to photographic literature. The entire work has been edited by F. J. Mortimer, F. R. P. S., editor of *The Amateur Photographer and Photographic News*, and forms a complete handbook to all photographic processes and procedure.

At the same time, the new edition is written in an easily understandable and readily accessible form, in alphabetical sequence, the aim being to produce a complete yet concise volume of reference for both beginners, advanced, technical and pictorial workers.

Many hundreds of new definitions have been added, so that the book is quite up to date, and contains full working details of the latest processes. The definitions now included, although primarily intended to be explanatory, have, in a great number of instances, been enlarged to the proportions of descriptive articles, so that the dictionary can be regarded almost as a complete set of practical handbooks on all photographic subjects, bound in one cover.

A special feature of the dictionary is the extensive and exhaustive system of cross-referencing that has been employed throughout. Information on all correlated subjects can therefore be easily found, and the editor's task of revision has been largely directed to the concentration of information

which was scattered throughout the book in previous editions. In the present edition details relating to the various subdivisions of subjects appear under main headings, while in their respective alphabetical order terms appertaining thereto are briefly mentioned and cross references made to the main articles concerned.

As a work of reference, therefore, the book can be regarded as exhaustive and cyclopaedic in form, as practically every point likely to arise in photographic practice is fully dealt with in its pages. It is a volume that should be on the book shelves of every photographer, both amateur and professional, as it is the one photographic book of reference that can be regarded as indispensable. Price, seven shillings and six pence net. It is published by Messrs. Hazell, Watson & Viney, Limited, 52 Long Acre, W. C., London, England.

"The Lantern and How To Use It"

The great popularity of the optical lantern as a means of showing photographic pictures on the screen has rapidly increased during recent years, and its position, both as an entertainer and an educational force, is now fully recognized.

A new edition of the practical handbook on the subject, "The Lantern and How to Use It," by C. Goodwin Norton and Judson Bonner, therefore comes opportunely; for the lantern, although essentially used to the greatest extent during the winter months, is nevertheless of outstanding utility all the year round.

The new volume, which is the fourth edition, has been entirely revised and brought up to date and includes references to the latest apparatus and all working instructions for the practical lanternist. It is a book that every lantern user should obtain and study. Price, one shilling net. It is published by Messrs. Hazell, Watson & Viney, Limited, 52 Long Acre, W. C., London, England.

OUR BOOK SHELVES

"Bromide Printing and Enlarging"

This is the title of the fifth of the "Big Six" series. The sub-title reads as follows: "A Practical Guide to the Making of Bromide Prints by Contact and Bromide Enlarging by Daylight and Artificial Light Methods, with the Toning of Bromide Prints and Enlargements." The book is excellent, living fully up to its table of contents. Chapter I. The varieties of bromide papers and how to choose among them. II. The question of light and illumination. III. Making contact prints on bromide paper: paper negatives. IV. Enlarging by daylight methods. V. Enlarging by artificial light. VI. Dodging, vignetting, composite printing, and the use of bolting silk. VII. The reduction and toning of bromide prints and enlargements. Sixty-three pages, colored covers. Price, twenty-five cents. For sale by all dealers. Tennant & Ward, publishers, New York.

A Volume of Formulae

A third and enlarged edition of the "Praktische Rezeptssammlung" of Herr H. Spörl, has just reached our desk. It contains nearly two hundred pages devoted to over twice that number of the best and most practical photographic formulae it has been our good fortune to see gathered together. And in every instance there is given full directions for the use of the formula, something often lacking in a book of this kind. For example, the formulae for making carbon tissue are very instructive and convincing, showing plainly how comprehensive a formulary the book really is. It is one that we would strongly urge all our German reading subscribers to secure. It is published by M. Eger, Leipzig, Germany. Price three marks. We will gladly place orders for our readers upon receipt of ninety cents.

"Developers and Development"

Sixth of the "Big Six" series, the title head reading: "A Practical Survey of the Principal Developers and their Characteristic Points. With Reliable Formulae and Instructions for their Use in Negatively Making." Its value is shown by the following table of contents: Chapter I. About negative making. II. Developing agents. III. Composition of developed solutions. IV. Making up developers. V. Points on chemical manipulation. VI. Pyro-soda, pyro-

potash, pyro-metol, pyro-acetone. VII. Ortol and ortol-metol. VIII. Hydro-quinone, hydro-eikonogen, adurol, amidol, Nerol. IX. Metol, satrapol, rhodol, metol-hydro. X. Glycin, eikonogen, eiko-hydro. XI. Rodinal, citol, tolidol, microgen, duratol. Sixty-four pages. Price, twenty-five cents. This, with the above, completes the "Big Six" set, and, like the other volumes in the series, offer a mass of carefully digested, practical information on their subjects. We commend them to our readers as honest little books, well worth the price asked for them. For sale by all dealers. Tennant & Ward, Publishers, New York.

"The Art of The Berlin Galleries"

To the Popular Series on Art Galleries of Europe is added "The Art of the Berlin Galleries," by David C. Preyer. The author takes up the great collections in the National Gallery and the Kaiser Friedrich Museum. He shows, in sections devoted to each, how thoroughly the Italian, French,



THE HERMIT. ARNOLD BOCKLIN.
THE ART OF THE BERLIN
GALLERIES.

Dutch and German schools of art are represented. The arrangement of the book is excellent, and the descriptions of the pictures and the sketches of the galleries are ample. The illustrations are numerous and exceptionally well done. Published by L. C. Page & Company, Boston. Price two dollars net.

"Chile and Her People of To-day"

The author, Nevin O. Winter, has contributed several volumes to this series, a series



REFUGE HOUSE ALONG THE OLD INCA TRAIL
ILLUSTRATION FROM "CHILE AND HER PEOPLE
OF TODAY"

that introduces us to the countries not well known to the average traveler or reader. All have to do with countries south of us, principally in South America, and with each volume we are more and more reminded how little we know concerning these most interesting near neighbors of ours. They impress us with the indifference exhibited by our manufacturers who seem to entirely overlook these nearby markets for some unknown reason. Meanwhile the English, Germans and French are fighting to keep their places and prevent Italy from becoming still another trader.

The author is an experienced traveler, and he writes gracefully of the people, their manners and customs, their modes of living both in town and country, the progress of the people in trade, industries, education and politics, their natural resources and history. A particularly interesting and informing chapter is: A Laboratory of Nature, and another, The Nitrate War.

While the picture he draws is fascinating it must not be thought that Mr. Winter finds nothing to criticise. The author says: "I verily believe that the official work of the government could be carried on with less than one-half the force employed * * * A government appointment means easy work or no work and fair play."

There are many illustrations, reproductions from photographs, and the book itself is well printed and tastefully bound. Published by L. C. Page & Company, Boston. Price, three dollars.

"Cassell's Cyclopedia of Photography"

This work, edited by twenty leaders in photographic research, explains every photographic process and every photographic appliance and utility. It contains over two thousand short cuts, new wrinkles, and directions that assure both successful and artistic photography. Although the work of leading experts and authorities, it is written so plainly that the veriest tyro can have no trouble in understanding and applying the vast store of photographic knowledge which it contains. The knowledge gained from its pages will enable the worker to take good pictures, overcome trying and expensive difficulties; in fact, save him time, trouble and cash. It contains hundreds of illustrations, many full page and in colors. There is an advertisement of this valuable new work in the front advertising section and each reader, be he tyro or expert, is urged to look it up and act upon the offer therein made. The publishers, Cassell & Company, are one of the oldest and best known publishing houses in this country and our readers may be assured of fair dealing from them at all times.

The New Bausch & Lomb Catalogue

This new catalogue is one of the most interesting expositions of photographic lenses that has come to our table for a long time. The information contained in the booklet recently issued by the same firm, entitled "What Lens Shall I Buy?" has proven so useful to prospective customers that it has been incorporated in this new catalogue, together with a fine assortment of typical illustrations. This, together with the description of the development of photographic lenses, and the technical terms used in photography, makes the book of the greatest value to the photographer. In addition to the lenses listed in their last catalogue, this new one introduces the Portrait Unar for professionals, the Apochromatic for photo-engravers, and the Tessar Ic, f-3.5 for moving-picture cameras, the latter in a new focusing mount of novel design. Do not neglect getting one of these new catalogues. It is sent upon request; simply address, Bausch & Lomb Optical Company, Rochester, New York.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

The New Graflex Catalogue

This new catalogue is most interesting, as have been its predecessors, on account of the fine pictures of events and scenes containing objects in rapid motion; there must be, counting those on the cover, nearly a hundred such. And fine paper and fine printing do their part in making it a pleasing book. In addition to a lot of informative reading matter there are full descriptions of the Graflex cameras, from the No. 0, weighing but twenty-five ounces, to the Naturalists' Graflex, having a focal capacity of twenty-six inches. Graphic Enlarging, Cycle Graphic, Cirkit Cameras, and others are also listed and described. If your dealer cannot supply you with one of these handsome new catalogues, send direct to Folmer & Schwing Division, Eastman Kodak Company, Rochester, New York. Copies will be gladly sent upon request.

"Self Help In Photography"

The above is the title of an instructive and helpful booklet that has just reached our desk from Burroughs, Wellcome & Co. It contains chapters on the selection of subjects, the problems of exposure, intensification and reduction, tray and tank developments, and other most interesting subjects for the photographer. The publishers write that they will be pleased to supply copies to any of our readers gratis upon request. Write Burroughs, Wellcome & Co., 35-39 West Thirty-third Street, New York, mentioning this magazine, and a copy will be sent you free.

New Ansco Catalogue

"Ansco, the Means of Education and a Source of Employment for Old and Young Alike." This simple statement, made by Elbert Hubbard, forms the title page of the Ansco catalogue for 1912. It is a camera catalogue that carries a message of great importance to mankind. Its artistic cover design represents the idea expressed by Elbert Hubbard in his interesting preaching, "Snap Shots and Education," with which the

catalogue itself is prefaced, and the preaching is illustrated with thumb halftone vignettes showing pictorially the value of any agency that helps to bring the old and young together in close touch with nature and the great out-of-doors. The illustrations begin with Aristotle, whose methods in school-teaching have never been surpassed and his apt pupil Alexander the Great, bringing us down to this day and generation in which Ansco photography, according to Elbert Hubbard, is "the means of education and a source of enjoyment for old and young alike." Be sure to send to the Ansco Company, Binghamton, New York, for a copy of this 1912 catalogue. It is worth having, and is one of the few pieces of free advertising literature that may be read with interest and profit from cover to cover.

A New Wollensak Lens

The Wollensak people have announced their new Vinco Anastigmat, working at f-6.8. They have placed this lens on the market to meet the demand for low-priced Anastigmat lens. It is fully guaranteed to be at least equal to any anastigmat selling at a lower price than the Wollensak Series I Velostigmat. They advise that it will cover sharply at full aperture the plate for which it is listed and can be used on plates one size larger by stopping down. The separate combinations cannot be used singly, but for all ordinary work where the complete lens is used on the size plates for which it is listed, the Vinco-Anastigmat will be found thoroughly satisfactory.

Particulars as to sizes and prices can be obtained from the Wollensak Optical Company, Rochester, New York.

New Grades of Paper

The Photo Products Company recently commenced making their regular weight grades of glossy paper in pousse as well as white stock. Many commercial photographers prefer the pousse stock which, hereafter, may be had by specifying pousse on orders for Instanta Grades No. 2 Hard Glossy or

No. 6 Soft Glossy. The pense stock is the same high-grade imported linen quality as used in the manufacture of all their various grades of papers and post cards. Instanto is now being used very extensively by commercial photographers, who will, no doubt, be glad to learn of this addition to the available grades. The paper is well adapted to commercial requirements and is also excellent for amateur, view, or studio work. All stock used by this company is coated on the back to overcome any tendency to curl. Photographers desirous of knowing more about the products of this company should write for a complete price list. Free samples are supplied to professionals.

The New Hall Pocket Camera

The attention of our readers is called to the advertisement, on another page, of the Hall Pocket Focal Plane Shutter Camera. It takes a picture $1\frac{3}{4} \times 2\frac{3}{8}$, using a film pack only. With its focal plane shutter one can stop the fastest moving objects, and, owing to the excellence of the lens, a special objective of universal focus, these wonderful little negatives can be enlarged with the best of results. In fact, on account of the enormous depth of focus, a small lens has as compared with a large one necessary with a larger plate, enlargements from small negatives are more satisfactory to most workers than enlargements of equal size from larger negatives. This little camera is a practical instrument and must not be classed as a toy or makeshift. Full particulars will be sent by the makers, The Hall Mirror Camera Company, 14-18 Dunham Place, Brooklyn, New York.

Agfa Flash Powder

Color photography by flashlight was demonstrated at the April meeting of the Photographers' Club of New York held at the studio of I. Buxbaum, Brooklyn, on the evening of April 16th. Some thirty-five members were present and displayed a great interest in the making of six plates. The models were posed under the direction of Dudley Hoyt, and all except one of the exposures were made by means of the new Agfa Flashlamp and Agfa Powder. The five plates thus exposed were completely successful, the time in each case being so correctly gauged that all of the values of the plates were preserved. Under the direction of George L. Barrows, chief of the photo-

graphic department of the Berlin Aniline Works, great progress has recently been made in the production of pictures by flash-light on autochrome and other color plates, the Agfa powder and lamp being especially adapted to this work. The rapidity of combustion and the great illuminations of the powder, together with the absence of odor, smoke and noise, permits its use in the studio without bags or other cumbersome machinery so usually associated with color flashlights. The rapidity of the flash, corresponding to an exposure of approximately one thirty-fifth of a second, practically assures a perfect picture on every exposure. Mr. Barrows is preparing to give other demonstrations in neighboring cities during May and June, and those who desire to witness the very latest thing in autochrome work should at once get in touch with him through the Berlin Aniline Works, 213 Water Street, New York City.

A Simple, One-Solution Intensifier

Attention should be given to the announcement covering the Victor Intensifier that appears in our advertising pages nearly every month. We have used it many times in our own work and found it surprisingly efficient, convenient, and inexpensive. With it one can get a degree of intensification that is surprising; it works very rapidly, and can be used over and over. It is sold both in powder and liquid form. We prefer and would advise the use of the powder form because it is cheaper and seems to work stronger when freshly dissolved. A No. 2 powder, making eight ounces, costs but thirty-five cents; by mail, forty cents. The smaller size, costing twenty-five cents by mail, makes four ounces. Give it a trial on a few of your under developer and weak negatives and you will find yourself using it quite frequently instead of making unsatisfactory prints or discarding negatives because they will not print well. It is supplied by most dealers or can be obtained from the makers, James H. Smith & Sons Company, 725 East Thirty-ninth Street, Chicago, Illinois.

Dallmeyer Lenses

The Adon Lens advertised in our last issue is a new form of that well-known production of the Dallmeyer firm. We would advise all our readers to secure an illustrated catalogue from their dealer or

NOTES AND COMMENT

direct from the American agents, Burke & James, 240-246 East Ontario Street, Chicago, Ill. Dallmeyer lenses have enjoyed an enviable reputation in this country for a great many years and they are certainly very fine objectives. Note the advertisement of them this month and send for a catalogue. It will be well worth the few moments required to write an inquiry and post it.

Reported by William Wolff

C. A. Nelson, of Bakersfield, expects to go to Denmark shortly.

Marcell Studio, Bakersfield, had a fire in the finishing room lately. About three hundred dollars worth of material and unfinished work was lost.

Powell & Brown, of Fresno, have a well appointed studio. Mr. Powell also owns a nice studio at Hanford.

The Clendenon Photo Company, of Coalinga, have done a rushing business this spring.

Both Mayo and Hemminger, of Modesto, report excellent business.

Ollie Lussier has taken charge of J. N. Boyd's studio and is putting out some very attractive work.

J. B. James, of Bakersfield, employs four men in his studio and is certainly doing a large business.

Harold A. Parker, of Pasadena, has just moved into his seven-thousand-dollar bungalow. It is some bungalow, as I spent a few days there and know.

Fred Twogood, of Riverside, made some fine pictures of the motor races at Santa Monica.

Leopold Hugo, of La Jolla, certainly enjoyed himself at the Shriners' Conclave at Los Angeles recently.

H. G. Trout, of Salinas, is very busy just now.

J. T. Hall, of San Luis Obispo, has added a billiard table to his studio accessories.

Schwichtenberg, of Pomona, is being kept busy with high school and general work. He got out no less than three thousand prints one week. His good wife is certainly a helpmate.

Mr. and Mrs. John O. Tucker, of San Jose, attended the Eastman School at Los Angeles, remaining the full three days.

Frank Aston, of San Luis Obispo, attended the school. Frank does not think he knows it all. You can "show him."

Mr. Southworth's Loss

A letter from our contributor, Mr. Southworth, of Union City, Tennessee, advises that his studio was entirely destroyed by fire May seventeenth. He was unable to save anything from the studio; but, to quote from his letter, "My hat is still in the ring." He will devote the summer to home portraiture, a line of work that has always appealed to him. We join our own sympathy with that of our readers, readers who, like ourselves, have had a keen appreciation of the helpful articles with which he has favored us.

A New Camera Club

Tuesday evening, May ninth, a number of camera enthusiasts met at the home of George Bollman, College View, Nebraska, and organized a camera club. The club will meet once a month. A. R. Smith was chosen President, and J. E. Winter, Secretary-Treasurer.

The Merits of Duratol

The popularity of a new developer is in proportion to the "good that is in it." In other words, it must have the merits of those most largely used, and in addition possess advantages where its rivals possess faults. Duratol is non-poisonous, non-fogging, adjustable—rapid or slow; very sensitive to bromide, and it is stable.

Let us see what this means. Briefly, Duratol will not cause physical discomfort. It can be used within a wide range of temperature and give good results. It can be so diluted with water as to bring the time of development to over an hour and the plate or film shows not the slightest trace of fog. Its solutions, kept in sealed bottles, will keep almost indefinitely. It is cheap, since (aside from its stability) it permits the use of a large amount of a cheap developer, Hydroquinone, in combination with a small quantity of a higher priced one. Nevertheless, the Metal quality is there, both in the negative and in the print—soft and harmonious tones, with depth and detail, and halftones which not even Pyro can surpass. Those of our readers who are not satisfied with the behaviour of the developer they are at present using should write for a circular covering the merits of Duratol and giving formulas for its use in combination with hydroquinone. Address: Schering & Gile, 150, 152 Maiden Lane, New York.

CAMERA CRAFT

Use Nice Letter Heads

In our front advertising section will be found a small advertisement of the Southern Printing Company, of Perry, Oklahoma. This firm does a large business of a mail-order nature, shipping their "Lithotone" letter heads to all parts of the country. These are particularly suited to the use of photographers who wish to secure something more artistic and distinctive than they get in plain type formation from their local printers, and the prices are such that there can be no objection on the score of cost. Drop the firm a line asking for samples and prices and you will thank us for the suggestion.

Under New Management

It is announced that the Haloid Company is now under a new and progressive management. J. B. Guthrie, Vice-President and General Manager, brings to the company a knowledge gained from fourteen years' experience with the sales department of a large manufacturer of photographic materials. The laboratory and emulsion rooms are under the supervision of Homer Reichenbach, whose experience of nearly twenty years in this one line of work assures a standard that only long experience can produce and maintain.

The policy of the firm will be to manufacture up to a standard, not down to a price. Having a product with quality, together with every facility for serving its customers in a satisfactory manner, the new management solicits a share of the patronage of the photographer.

R. S. Crandall Shows Color Work

The cloister music room of the Glenwood Mission Inn was the scene, recently, of a most enjoyable affair given under the auspices of the Riverside Camera Club, when R. S. Crandall, president of the Los Angeles Camera Club, showed his extensive collection of autochromes.

Mr. Crandall first gave a short explanation of the two processes which he uses in obtaining his pictures. One is called the autochrome process, and the other method is by using the Dufay Diopochrome plates on which the color is laid on in a sort of screen resembling that of a halftone, red one way, blue the other, and yellow in between.

The first slide which Mr. Crandall showed

was one of the starch grain plates without the emulsion, showing the little red, blue and yellow color flecks. He then showed in order a number of beautiful views in and about Los Angeles and Pasadena. He showed some extraordinarily beautiful sunset cloud effects, and his flower pictures were particularly fine. Some of the latter were considered particular feats of skill, for he showed certain color combinations of red and orange which are considered most difficult to photograph. Some pictures of the Mission Inn were particularly effective and were heartily applauded.

Send For a Copy

The Annual Report of the California Development Board for 1912, entitled "California Resources and Possibilities," which is just off the press, contains some very carefully prepared figures showing the production in all lines of industry during the year 1911, and comparing these figures with those of former years gives very complete review of the tremendous growth of the State of California.

The development of resources and the increase in wealth during the sixty-two years of her existence as a State are probably unparalleled in the history of this country. In the sixty-two years of statehood, California has achieved financial strength that speaks well for the energy of her people and for the richness of her acres. A statement of the per capita wealth, private and public and in per capita debt, shows that California is foremost in the States of this country and among the countries of the world.

There are included, in addition to an excellent map of the State, numerous illustrations and articles on irrigation, climate and the like. An inquiry addressed to the California Development Board, Ferry Building, San Francisco, will bring a copy free of cost to those interested.



The New Ansco Film Booklet

Send and get a copy if your dealer does not have a supply. It is absolutely free and contains some valuable information. Particularly helpful are the chapters devoted to Time Exposures Indoor, Time Exposures Out-of-Door, and those on development. When you write, also ask for a copy of the new Cyko Manual. Address Ansco Company, Binghamton, New York.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA



There is psychology in photography, and it also has its "Cykology," the principal medium of which is CYKO—the sensitive recorder of that indefinable something in every artistic negative. —*Fra Monte.*

Good negatives may be divided into three classes: soft, normal and "contrasty."

The result depends on the paper used for printing.

Any of these good negatives, if printed on the wrong paper, will produce poor prints, and all will yield beautiful prints on the right grade of

Cyko Paper

Cyko is made in three grades of tone gradation for amateur printing, corresponding inversely to the class of negatives for which each grade is intended.

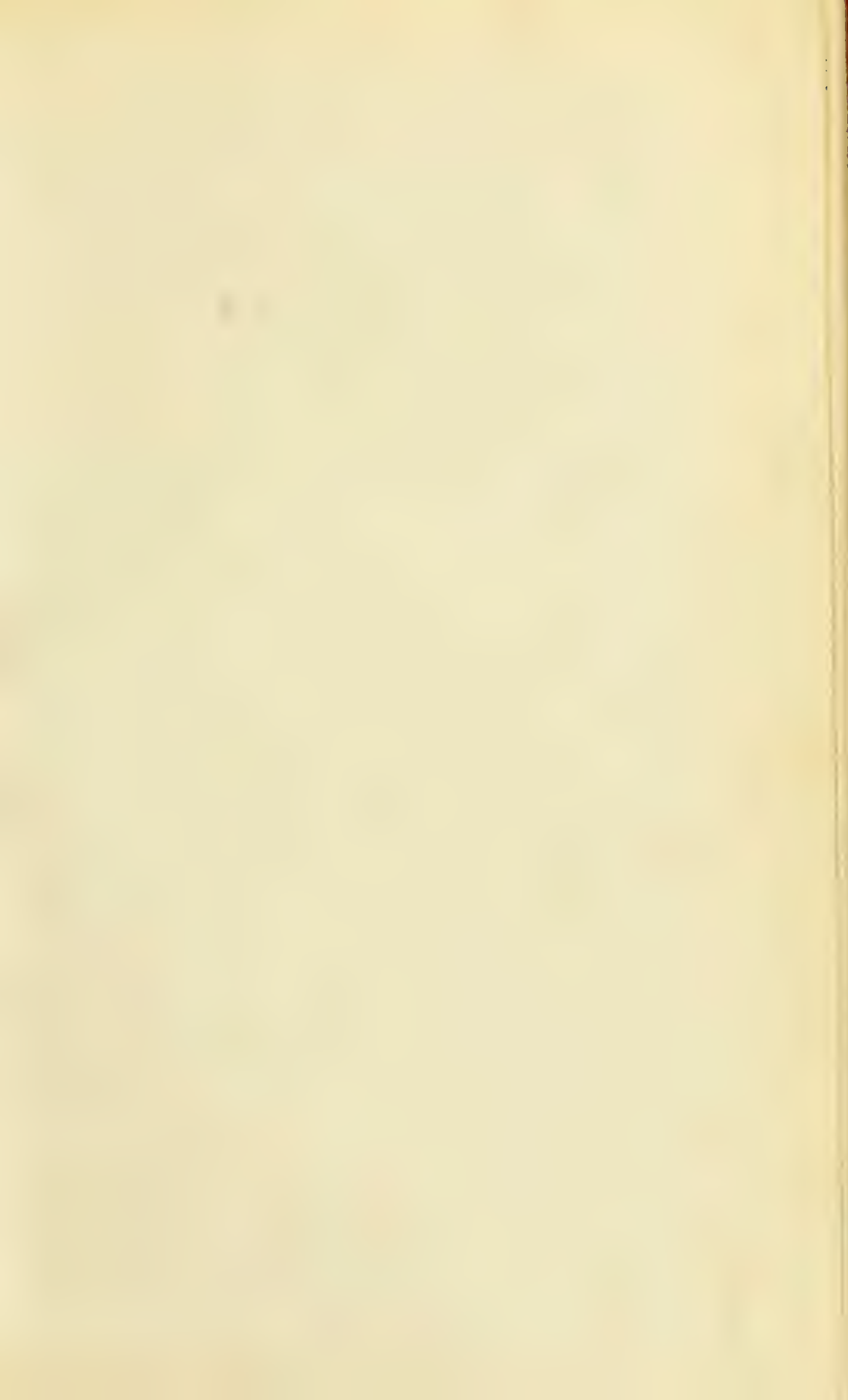
Contrast (Blue Label) For weak and soft negatives.

Normal (Yellow Label) For normal negatives of even gradation.

Soft (Red Label) For contrasty negatives.

Send for Cyko Manual, the key to prize-winning pictures.

Anscocraft Company, Binghamton, N. Y.





AT KAWAIAHAO GATE
By A. M. CLAY

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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Using Gaslight Paper In Warm Weather

By A. W. French



Here in the tropics the photographic worker who does his own developing, printing, etc., has to contend against handicaps imposed by the continuous heat and excessive humidity. Especially is this true in the handling of gaslight papers; and a few suggestions from one who has wrestled therewith for the past three years, here on the Isthmus of Panama, may perhaps be of interest to some readers of *CAMERA CRAFT*.

Unless ice be used, it is impossible to keep the temperature of solutions at the point recommended by practically all manufacturers, sixty five to seventy degrees Fahrenheit, as the tap water rarely falls below seventy-five degrees and sometimes goes up to eighty-two degrees, in this climate. Even when ice is used and all solutions started out at the same degree, it is difficult to maintain a constant temperature. The only way I know of overcoming this is to set each tray in a larger one containing ice, but this seems to involve too much trouble for the average resident of the tropics.

I have used the metol-hydrokinone formula invariably prescribed by the makers of gaslight papers, at temperatures up to seventy five degrees, and produced what seemed to me to be prints of passable color. But it has always been necessary to greatly increase the potassium bromide, and to add a little potassium iodide to kill the weird colors produced by the excess of restrainer. This procedure necessitates the giving of such exposures as will permit of very quick development, and that allows of practically no latitude whatever in exposure. It is not a practice to be recommended.

It is easy to understand why the manufacturers insist that the temperature of the developer should be maintained at as close to sixty five to seventy degrees

CAMERA CRAFT

Fahrenheit as possible. Above that point the chemical reaction is not only quickened, making control of development more difficult, but the warm developer softens the gelatine film, with a consequent danger of frilling and blisters. Then, also, the metol-hydrokinone formulæ always include an alkali such as sodium carbonate for the acceleration of the work of the reducing agents. This purpose it achieves by softening and opening up the minute sacs of gelatine which contain the sensitive silver salts.

This disintegration of the gelatine can be avoided, to a great extent, when using the metol-hydrokinone developer, by adding one dram of formalin to each ounce of developing solution. The formalin has the property of rendering the gelatine more or less insoluble, but it has the disadvantage of lengthening the period of exposure and time of development. The same thing is true of developers containing formosulphite, acetonesulphite and similar chemicals. There are so many formulæ afloat in the photographic magazine pages that I shall not add to the number. At any rate, should a reader be desirous of trying out the foregoing suggestion, it is better to write to the manufacturer of the paper used, asking for information as to the quantities he would recommend. The proportions of the chemicals which go to make up a developing solution depend on the proportions employed of the materials from which the sensitive emulsion is made, and no one knows these amounts better than does the manufacturer.

Some time ago I ran across an article on suitable developing agents for use in the tropics, in which amidol was recommended very strongly for the reason that it requires no alkaline accelerator. It does simplify matters considerably, I find, and is as economical to use as metol-hydrokinone. The fact that the gelatine-softening alkali is not needed makes amidol especially advantageous when the temperature of the developing solution cannot be kept at sixty-five to seventy degrees Fahrenheit, as recommended. The only objection I have ever seen stated is that amidol does not keep well in solution. This is rather beneficial than objectionable, as it obliges one to use fresh developing solutions, with a consequent gain in quality of color of prints.

At first I used to make up sufficient twenty per cent solution of sodium sulphite to last a week or so. At the time of developing, I added twenty grains of amidol to eight ounces of the stock sodium sulphite solution, and sufficient potassium bromide to keep the whites clear. This involved the use of the scales to a certain extent, and the keeping of a stock solution of somewhat doubtful strength. A better way soon suggested itself; I bought several sizes of the little wood spoons used in mustard pots, and picked out one that, when filled level, just held twenty grains. Then I added a pill box to my collection, one which contains one-fourth ounce of the dry sodium sulphite. When I wish to make up the developing solution, a pill box full of the sulphite is dissolved in eight ounces of water, then the mustard-spoonful of amidol is stirred in, and from four to six drops of saturated solution of potassium bromide added.

The last time I used this developing solution, the temperature was eighty-two degrees Fahrenheit. The prints were of good blue-black tone. I have no doubt but that, with proper exposure and sufficient bromide in the developer, even higher temperatures would cause no material harm. However, the tap

USING GASLIGHT PAPER IN WARM WEATHER



AN OLD INDIANA HOMESTEAD

By JOHN F. FENSEL

water here has never gone higher than the above figure, so far as I know; and I have never bothered to heat the developer to ascertain the effect of higher temperature. Development should be followed by a quick but thorough rinse in fresh water, so that prints may be placed in the fixing bath practically free from developer.

In the matter of the fixing bath, the worker who prepares his own solutions may still further simplify matters. But three chemicals are needed to compound an efficient acid alum fixing bath: hypo, anhydrous sodium bisulphite, and powdered chrome alum. Dissolve four ounces of hypo in sixteen ounces of water, then add one-fourth of an ounce of the dry sodium bisulphite, and then sixty grains of the powdered chrome alum. For measuring the two latter I use another pill box and a second mustard-spoon. This fixing bath has a greater hardening and clearing action than the acid-alum bath usually prescribed, although the reason I use it is that it makes use of the scales unnecessary and prevents a multiplicity of chemicals on my shelf. No stains or other bad results need be feared if the temperature of this solution rises to eighty degrees.

For the benefit of those who may not be able to obtain the dry sodium bisulphite or the saturated solution called soda bisulphite lye, I will say that it can be made by dissolving five ounces of anhydrous sodium sulphite in twenty ounces of water, and then stirring in slowly one and three-quarters ounces of chemically pure sulphuric acid. Use double the quantity of this solution that is prescribed of the dry soda bisulphite.

One final caution when developing in a solution at higher temperatures than the manufacturer recommends. Use plenty of potassium bromide. Should the prints show a tendency to disagreeable tones, add only sufficient solution of ten per cent potassium iodide to obviate this.

With Camera In Cairo

By Gustav Eisen



With Illustrations by the Author

Northern Africa is certainly the camera fiend's paradise. On arriving for the first time in Algiers, Tunis or Morocco, photographic intoxication takes hold of the brain, eyes, arms and fingers, and one at once begins to sin against all the natural—and unnatural—laws of art and photographic craft. This, perhaps, applies most particularly to Egypt, where there is something to astonish and something to photograph every minute of the day. When I think of you at home, who have to organize excursions to distant points, who have to walk for miles and miles in order to find something to snap at, then indeed I feel sad, sad to think that I myself may sooner or later be in the same fix.

Egypt, and particularly Cairo, is the photographic sportman's paradise. One needs but to open the door, step out into the street, and "get ready." If not ready instantly, one is certain to miss perhaps the opportunity of one's life. Outside on the street there is an endless procession of picturesque characters, walking slowly so as to give one every chance. The only trouble is that the streets in the most picturesque parts are very narrow, so that one just gets the middle two-thirds of every figure, head and feet being generally lacking in the negative. But, by experience and careful management, one finally succeeds in overcoming such minor difficulties.



WOMEN CARRYING WATER—NILE—LUXOR

WITH CAMERA IN CAIRO



SUNSET ON THE NILE LUXOR

Out on the street, at once almost, we see pass the most interesting thing in Cairo: a native cart with two wheels, loaded down with native women all dressed in black and covered over so as to only show their eyes. They do not sit in a bunch and on top of each other, as do their sisters in Italy when they drive to mass or to the Tratooria, but they sit squatting in a double file along the length of the cart, generally eight or more of them. But unfortunately the cart is driven at a breakneck speed in order to prevent unholy eyes getting a glimpse of the beauties—in Christian eyes they are only picturesque—or perhaps in order to give them more time at the jewelry shops. At any rate, I have found it almost impossible to catch the cart in motion, and when it stops it is always in a shady corner where the photographic result would not be so good. Although I have seen thousands of these carts, loaded with black-garbed women resembling ravens, I have only secured one photograph of them, and that one is not to my satisfaction. When the women alight, one may get a chance at them; the best way being to secure a post at a corner and wait until they come. The more educated do not object to being photographed, provided no one they know is near by; but the average Cairo woman will invariably turn her head or draw her shawl over her face in the presence of a camera. Still, one has chances enough and can fill a whole book with negatives of native women if he cares to do so, and they generally turn out quite well.

But there are thousands of other things to be seen and photographed. Post oneself at one of the great gates—now in the center of the city—and he can take a photograph every minute, with a good chance that it will be a success. Here comes the water carrier with his big pig-skin filled with water, his back doubled up under the heavy load. There stands the seller of sweet drinks,

CAMERA CRAFT



OLD STREET IN CAIRO



A FUNERAL IN CAIRO

generally water with licorice or water with lemon peels. His drinks are quite good, but he himself is the image of picturesqueness. He is dressed in knee breeches, a red silver and gold ornamented jacket and a turban or fez. Before him he carries a huge bottle, in the opening of which is stuck a small piece of ice to make one think that the drink is cool. Here again are camels, donkeys, horses and their drivers, and one's collection would not be complete without them. Then look around at the houses. Did one ever see anything more picturesque, anything more elegant than these lattice-covered windows? Never, I am sure. Or these wonderfully ornamented doors and arches, be they to mosques or dwelling houses. They are masterpieces of Arabic art, each one worthy of preservation in a museum. Then look up and down the street and see the turbaned throng dressed in all the colors of the rainbow, in robes of silks embroidered with gold and silver. There comes a native carriage. A pasha sits inside; before the horses runs a young native, handsome as a day and dressed in silk and gold. His bare legs and feet seem not to touch the ground as he dashes by like a deer, crying out to the passers on foot to give the way to his master. No American or European runner can run like that. It is as if a fairy fledged before us, and while we admire his elegance and swiftness, we deplore his ignorance of foot races in America, where, did he but know, he could be certain of making an everlasting fortune in a few months' time.

Returning to the bazaars, narrow streets covered with matting so as to exclude the light, they are found lined with wonderful stores filled with Oriental wares, multi-colored and beautiful to behold. The booths follow each



A DONKEY AND GUIDE, SIR?



A MIDDAY SIESTA

WITH CAMERA IN CAIRO



BLACKSMITH SHOP—CAIRO



FRUIT STAND—CAIRO

other without interruption, and in the openings sit their masters, smoking the pipes or cigarettes, or drinking coffee out of cups the size of thimbles.

Let me tell you at once that no camera so far made ever took a photograph of these Cairo bazaars. Some years ago I saw a series of reproductions in *World's Work* purporting to be from photographs taken of the Cairo bazaars. They were quite interesting, but I now know that they were not photographs of the bazaars, but from stores in the open streets. The bazaars are as little photographable as they are impossible of description. The streets they line are not over eight feet wide, and the light hardly permits one to read comfortably at mid-day.

Leaving the bazaars and strolling out of the main streets, one is soon before the wonderful Citadel of Saladin, with its Mosque of Mehemed Ali. Standing before it, one will agree with me that no view in the world can compare with it.

To the right of the citadel stand the wonderful tombs of the Caliphs, all masterpieces of architecture, with domes and minarets, exquisite and beautiful. Be sure to go there in the evening and catch them as the sun sets behind the domes. To the left are the tombs of the Mameluke rulers of Cairo, and they, too, are superb. They also are best as the sun sets in clouds behind them. And from where one stands can be seen the immense ash heaps of old Cairo, a hundred feet deep in some places and covering more than one thousand acres of ground. As it never rains sufficiently to penetrate the ash and rubbish more



VEGETABLE STORE—CAIRO



SHOEMAKER'S SHOP—CAIRO

CAMERA CRAFT

than half an inch, they have neither been washed away nor hidden with vegetation. Among these picturesque rubbish heaps one finds native women baking and moulding camel dung with their bare arms and hands, just as the baker moulds bread. The dung, when dried, is used as fuel, the only kind they have in this country, bare of trees or forests. And, getting tired of city life, one can go down to the main square, where all the tramways pass. Take first a snap at the native bootblacks, all in one row, dozens of them, squatting on the ground, and before them, also in a long row, those who are having their boots shined. Then one has passing funerals and wedding feasts, both so necessary and dependent upon each other. Before the funeral cortege go native sheiks with long beards and wonderful faces, howling out verses from the Koran. Then comes the coffin, an open box, covered with a cloth and borne on the shoulders of the mourners. Lastly follow hundreds of women in black, like ravens, all howling in turn—as one set gets tired, another starts.

The wedding processions are gay indeed, headed by imps who howl and gesticulate; and, incidentally, stop wherever they see a camera and demand baksheesh. After them follow camels and musicians, standard bearers, and the two camels bearing a shrine in which sits the bride, the whole swinging from side to side. And lastly the bridegroom in an open carriage, so that his friends can run up and kiss his cheeks or his hands, according as their relationship be near or distant. If one can photograph these scenes, he is lucky, because they dash before the eyes like a lightning streak, and before one is ready they may



SUNSET—TOMB OF THE MAMELUKS—CAIRO

WITH CAMERA IN CAIRO



THE NILE—LUXOR
THE TEMPLE AL MARG
WOMEN ON THE NILE

AL MARG NEAR CAIRO
THE NILE AT SUNSET
AVENUE OF ROMAN SPHINXES

be past. They are visions of Oriental life well worthy of recording and carrying home.

Then take the tramway to the pyramids. Pay the fare of half a franc and look about, because the scenery is new and interesting the entire way. It is at its best in the evening when the sun is setting behind the great tombs and when details are less obtrusive. In an hour's time, one arrives at the foot of the great pyramid of Cheops. Two dozen photographs can be taken there without fear of repetition and the maker will admire them more when away from Cairo than while there. At the foot of the pyramids is the Great Sphinx, as wonderful and as mysterious as ever. The ordinary tourist always has his friends



WOMEN RETURNING FROM FUNERAL—CAIRO

sitting on camels or on donkeys in front of the Sphinx, and then he photographs them to his heart's content. Or perhaps he will give the Kodak to the camel boy so that he, too, may be in the picture. But if your own particular ideas are a little above that sort of thing, provide yourself with a pair of pistols or a good long sword; and, when the camel drivers and donkey boys come around, draw your sword and fire your pistols, being sure to kill at least one of them at the first volley. Otherwise they will all come back and demand that you engage their beasts in order to have a real good photograph to send to your friends. They will explain to you that if you are not yourself in the picture, no one at home will believe that you were ever there. You can buy foreign hotel labels to put on your trunks, through several German agencies; but you cannot buy negatives of yourself and friends in front of the pyramids and the Sphinx, except you have actually been there. Really, there is much to photograph in Egypt.



A Plea For The Small Camera

By Flora B. Horn



With Illustrations by the Author



THE AUTHOR. 8 grains Victor powder 6 ft. from subject. Stop f-5.6. Cramer Ins. Iso. D. C. plate.

either the subject or the camera moves, to impress a latent image strongly enough upon it, so that it can be developed into a good printing negative, and it is obvious that any camera must depend on its lens and shutter to meet this requirement. The modern high grade anastigmat, fitted to an equally efficient shutter, properly placed on a strong, rigid, convenient instrument, is the combination required. This combination in a very small camera, however, is far more efficient than the same combination in a larger instrument, as I will try to explain in the following paragraphs.

Its advantage lies in the fact that it must of necessity be fitted with a very

AM, as my title implies, a devotee of the small camera, the very small camera. Quite a few camerists, in my locality at least, do not favor the small camera, because they think it is not practical. I am writing this with the sole purpose of convincing some of these doubtful "8x10 fiends" that it is a highly practical instrument, I will venture to say more practical than its larger brother, under some conditions. The amateur wants, in my opinion, the camera that will cover the greatest range of usefulness, for he essays to picture everything from his baby brother to an aeroplane. He needs a camera so practical and efficient that when he sees something he wants a picture of, he can say, regardless of subject and conditions, "I can take it."

Now I think you will all agree with me when I say that the practicability of a camera depends entirely on its ability to concentrate enough light on the plate, before

CAMERA CRAFT

short-focus lens. In practice, the great speed of the fine anastigmat, in the larger sizes, is not available for a great many subjects, while the small lens of the same series and speed can be used at full aperture for every subject that comes before it. In theory, both lenses are of the same speed, and in fact both lenses, when used at the same stop, will pass the same amount of light to the plate in the same time, but with far, far different results on the negative. This is due to the fact that a short-focus lens has far greater "depth" than a long-focus lens of the same speed. Thus, if we focus sharply on an object fifteen feet away with an eight-inch lens at $f-4$, only those objects situated between



MID-DAY IN THE MEADOW— $1/50$ second, stop $f-11.3$, 12 m., Cramer Ins. Iso. D. C. plate.

thirteen and seventeen feet will be sharp, while if we focus on an object fifteen feet away with a three-inch lens at $f-4$, all objects situated between eight and ninety-four feet will be sharp. As I never liked arithmetic, these figures are only approximate, but are sufficiently correct to suggest the difference. For further information along this line, consult the catalogue of any reputable lens manufacturer.

Now, as a practical illustration, take a long-focus lens working at, say, $f-5.6$ and, from a little to one side, focus sharply on the front of a good-sized building. You will find that the back of the building is badly blurred. Your lens has the speed, but you cannot use that speed on this subject, because you must have the back of the building sharp as well as the front. There is only one remedy, stopping down, and that means loss of speed. Next, focus upon the same building with a short-focus lens, which means a smaller one, of the same speed, $f-5.6$, and you will find that the entire building, as well as everything back of it, is in absolutely sharp focus. Here you have the same speed, and you can use it. You may say, "I don't need speed for a building." Well, suppose it is late in the day, dark, cloudy and misty, the walk is full of hurry-

A PLEA FOR THE SMALL CAMERA

ing pedestrians, and you cannot come back tomorrow to get it; what will you do? You'll not get it; but, if you had a small camera it would be easy.

This is one of the two great advantages of the small camera. And the other is its size and weight. Even a compact 4x5 camera is a burden at times, because it usually weighs several pounds and takes up quite a bit of space; while, if one carries a dozen plates, carrying it is, on many occasions, out of the question.

How often have you gone out for a walk, leaving your camera at home because you did not want to be bothered, and then stumbled upon the nicest composition you had ever seen? A few filmy white clouds floating lazily along overhead, a beautiful, gently curving road bordered by an old dilapidated rail fence winding in and out, a nicely shaped tree or two in the foreground with boughs gently swaying with the wind, a misty blue haze to soften down the distance, and a farmer with a load of produce driving along the road at the exact point necessary to add accent and strength to your point of interest.

Did you not then sigh, "Oh! if I only had my

camera here." Had you owned my camera, it would have been there, for the reason that you would have been ashamed to leave it at home "because it was too bothersome."

There are at the present time quite a few of these small cameras on the market. Many have focal plane shutters, but personally I do not care for these for two reasons: First, I do not like the shutter (this is only a matter of taste), and second, although these instruments carry a small plate or film, they are not small cameras in the real sense of the word, their large shutter making them bulky. I use a Goerz Vest Pocket Tenax. It is a thoroughly efficient camera.



A BROOK, A GRASSY BANK INVITING SHADE. 1/8 Second f-8, Camera lens f-8, 1/8, C. plate with two times ray screen.

CAMERA CRAFT

easy to operate, makes wonderfully sharp little pictures, and is so small and light that I carry it always without the slightest inconvenience. It measures, when closed, $\frac{3}{4} \times 2\frac{3}{4} \times 3\frac{1}{2}$ inches, and can easily be carried in a small or vest pocket. It uses plates $1\frac{3}{4} \times 2\frac{3}{8}$, has a ground glass for focusing, can be used on any tripod, and has the most brilliant, accurate sight finder it has ever been my pleasure to look through. It has an accurate, finely made, easy to operate focusing scale, with the hyperfocal distance for the largest stop marked in red.

And the most important part, its lens, is a Goerz Celor, f-4.5, fitted to a finely made compound shutter having automatic speeds of one, one-half, one-fifth, one-tenth, one-twenty-fifth, one-fiftieth, one one-hundredth, and one two hundred and fiftieth second. The camera comes in a purse case, while six holders accompany it in another like case. I carry in my handbag, along with the miscellaneous "junk" girls are usually accused of carrying, my camera, six plate holders loaded with Cramer's Instantaneous Isochromatic Double Coated plates, six holders filled with extra fast plates, and three ray filters. The weight is not appreciable, and when I leave my bag at home I put the camera in one coat pocket, and half my supply of loaded holders in the other pocket.

You agree with me that this small camera, not considering the size of the picture, is a far more desirable instrument than a larger one. I don't think you have a chance to disagree with me, and I will try to show that the size of the picture is not an argument against it.

The makers of the camera supply an excellent enlarging camera for this work. One has but to put the Tenax negative in at one end and the sensitive paper at the other end, expose, develop, fix and wash, and obtain a $3\frac{1}{4} \times 1\frac{1}{4}$, a 4x5 or a 5x7 print, as may be desired, all as easy as making a contact print. I use my 5x7 long-focus view camera with the front board fixed so I can attach my small camera to it, and so use its lens for the enlarging. And these enlargements, because of the many excellent qualities of the lens, are about as good as most contact prints from the same size negatives which were made with a rectilinear lens.

A few words about the different operations, and I am through. Use good plates. Any defect that exists in the plate or negative will of course be greatly magnified in the enlargement. And develop in the tank. It produces at least as good negatives as the tray method, if not better. I have a home-made tank, but the makers of the Tenax are now offering one which should be better. Your negative is so small that you cannot afford to frill off a portion of it through your fingers being too warm, and that is but one of the defects that are liable to follow the use of the tray method, defects that are very unlikely to result from the tank.

Give the negatives a thorough fixing, a good washing, wipe off the surplus water with a clean, soft piece of old linen, and set them up to dry with their lower edges on a blotter and in a place in which they will not become covered with dust. A good negative is the result. Print it on any kind of paper you prefer. For myself, I like to print them on one end of post cards, punch holes through the other end with my Daddy's bill file, and then bind about two dozen between covers made of bristol board. I have such a one before me now, labeled

A PLEA FOR THE SMALL CAMERA



THE SPLENDOR OF A SUNSET SKY—1 100 second, 7:30 p. m., stop f-8, Cramer Ins. Iso. D. C. plate with four times ray screen.

"Chestnut Season, 1911." It contains some twenty views, all snapped while on a chestnut-hunting expedition. It brings back to me memories of many pleasant moments spent in this enjoyable pastime.

When you print, take a piece of thin bristol board the size of your frame, cut an opening in one end so that your negative will just fit into it, paste strips of black paper around the edge of the negative on one side to matt off the edge of clear glass left by the plate holder. These strips will hold your negative in one place and matt it cleanly all around. The card must not be thicker than the negative, or good contact cannot be secured.

My method of enlarging is to make a transparency from the negative and then make an enlarged negative from the transparency. I do not, however, make my transparencies on a transparency plate. A good isochromatic plate is better able to register the delicate gradations of light and shade, and will bring out more detail than an ordinary plate. A double-coated plate is better than an ordinary one.

Developing should be done in a weak developer, for the delicate gradations in the highlights lie deep down in the film, and one must use a developer that is weak enough to soak down to these gradations and develop them before the plate becomes so hard and thick that it is useless. The shadows lie on the surface of the film and will take care of themselves. The transparency should be kept thin and clean, and every possible bit of detail should be brought out. If the negative be a little flat, it will do no harm, as one can get all the contrast and snap wanted by proper development of the enlarged negative.

A few words about the illustrations, and I am through. Every one of them was snapped at the full opening of the lens, f-4.5, to show the wonderful depth of the lens, except No. 1, which was exposed at 16. They are not examples of art, for I am decidedly not an artist, but serve their purpose, that of showing what the small camera can do.

The Coming National Convention

It is no disparagement on past National Conventions to say that the Philadelphia meeting will outdo them all in point of number and variety of features offered.

But then it is natural that it should be so, for a greater attendance is expected this year than ever before.

In addition to the striking talks by Alfred Stieglitz, the world's leading pictorialist, Frank Jewel Raymond, on "Money-getting Means"; Hartmann's public and private criticisms; the school of modern printing processes; the school of posing and lighting, conducted by half a dozen of the best picture makers on earth; the twenty five-minute talks by the twenty most prominent photographers of the country; the splendid exhibit of selected American pictures and the best foreign exhibit ever shown here; there will also be a wonderfully fine collection of autochromes and color transparencies under the charge of Wm. H. Rau. Color transparencies by the autochrome and other processes are not any longer new, but photographers as a whole are only just beginning to get thoroughly interested in them. This exhibit at the National will show the great possibilities of color transparencies and will probably be one of the big features of the Convention.

A Lens Angle Determinator

By L. E. Rea



To make a scale for quickly determining the angle included by any lens on any given size of plate, proceed as follows: Take a stiff piece of white card of good quality, 4x7 in size. Leaving a border of half an inch at top, bottom, and right-hand side, draw a three-inch square and divide it into quarter-inch squares, numbering the lines as shown at the right of the sketch below. The segment of a disk shown in the cut is movable, pivoting on the brass eyelet shown as a black O at the bottom. This is best made next, being cut from a piece of the same card stock, 3x3 inches in size, except for a little waste at the lower left-hand corner to form the round pivoting piece through which the brass eyelet passes. The upper right-hand corner of this 3x3 piece is cut away to form the arc of a circle by setting a compass with a spread of three inches and using the

A LENS ANGLE DETERMINATOR

lower left-hand corner of the 3x3 portion as a center. The resultant 190° is divided into sixteen quarter-inch spaces, each such space representing ten degrees, as shown in the sketch. The pivoting circular piece at the lower left-hand corner is just an inch in diameter, but observe that while the center of the eyelet is the center of this small circle, not its center but its most distant part from the curved "angle of lens" scale is the center from which the arc forming the "angle of lens" scale was drawn. In other words, in punching the hole for the brass eyelet, punch it so that the lower left-hand side of the hole just takes in the

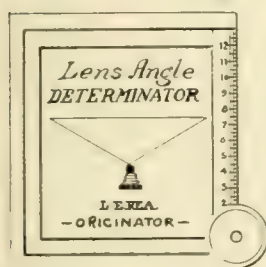


FIG. 1

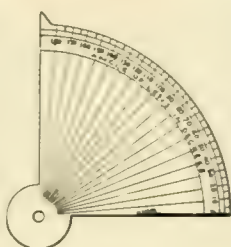


FIG. 2

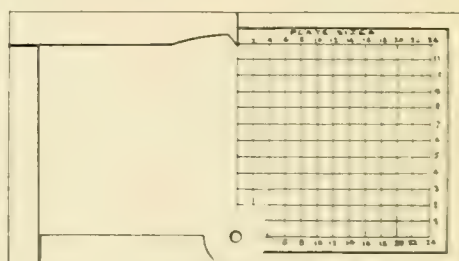
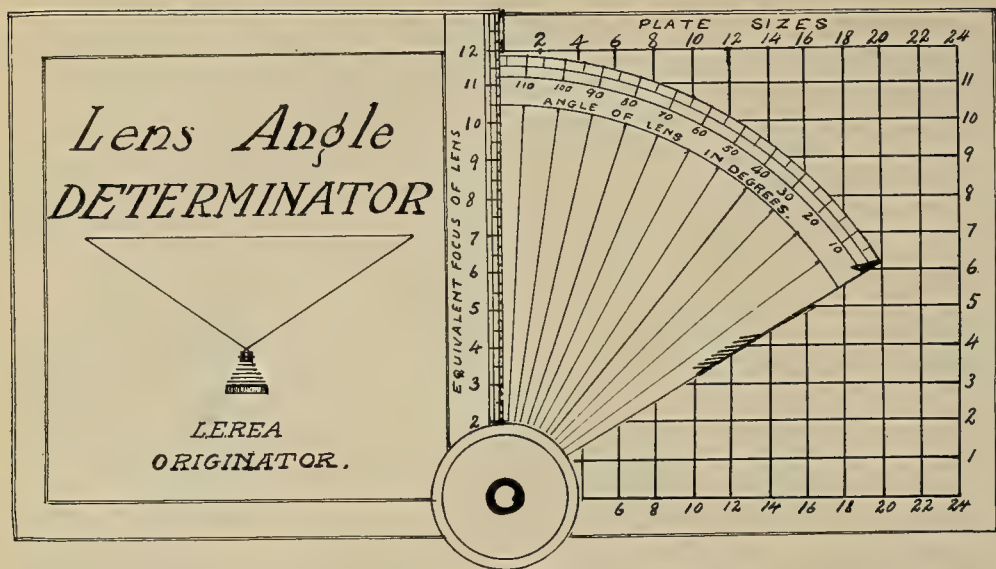


FIG. 3

puncture that the compass point made when the arc was struck for the "angle of lens" scale. These two pieces complete, glue three strips of the same card stock along the top, bottom and left-hand end of the left-hand half of the 4x7 card first made, as shown in dotted lines in Fig. 1, forming, when the top or Fig. 3 of the sketch below is put on, a pocket in which the segmental piece, Fig. 2, can turn on its pivot. This last piece, Fig. 3, is 3 1/2 x 4, except for the waste allowed at the lower right hand corner for another circular piece which forms a cap for the circular piece on the movable part just described. The scale at the side, beginning at the top, is laid off into quarter-inch spaces and marked as shown, each division representing an additional inch in focal length of the lens, the first one drawn in being one-half inch from the pivot, and representing a lens of two inches focus. Intermediate divisions representing half and quarter inches of focal length are shown drawn in in the larger sketch. The three pieces required are shown in outline herewith, the position of the strips being shown in dotted line as glued in place on the first or base piece. The three pieces are drawn to one-third scale; and, with the description above, should make the construction a very simple matter.

To use the scale, find the length or diagonal of plate, whichever it is desired to base the angle upon, at top or bottom of the chart; then find the equivalent focus of lens at either side. Where the two lines cross, stick a pin. Draw the top of the segment or movable part over until its edge, bearing the arrow, touches the pin or is in line with it, when the largest number, coming into view as indicating degrees, on the rim of the segment, will show the angle of the lens in question on the plate selected.

As an example, let us find the angle of a seven-inch focus lens on the diagonal of a 14x17 plate. The diagonal of such a plate is about twenty-two and one-fourth inches. At top and bottom of the "determinator" will be found the number 22, and the fraction may be calculated as being one eighth of the dis-



tance to the next or number 24 line. Finding the figure 7 on the side, corresponding to the focal length of the lens, the pin should be stuck in this line about one-eighth of an inch beyond where perpendicular line 22 crosses horizontal line 7. Draw the movable segment over until the arrow on its edge points to this pin, and on the rim of the segment, where it clears the central upright scale, will be found the number 110; and, as the edge of this perpendicular scale exposes just a little beyond the line between 110 and 120, it reads as an angle of 116 degrees for a seven-inch lens on the diagonal of a 14x17 plate. This example is shown in the cut of the "Determinator" above. It is an unusual example, but one quite common with extreme wide-angle lenses, yet one not covered by any of the published diagrams I have seen. A "Determinator" such as I have tried to describe is not difficult to make; and, for the dealer or other who is frequently confronted with questions concerning lens angles, it will repay, many times over, the slight time and trouble involved in its construction.



My First Year In Photography

By A. K. Sinclair



With Illustrations by the Author

The pleasure and enjoyment that I have gotten out of my first year's work at photography have been so great and the progress made so satisfactory that I desire to give others just starting out the benefit of my experience. I am writing this only to show what can be done by an earnest worker who is willing to study and apply what he learns, both by reading and by practice, to the conditions under which he has to work.

I am employed in a factory for ten hours each working day. This leaves me only the evening hours and Sundays to be devoted to photography. Doubtless many of the readers of this are similarly occupied. This lack of leisure necessitates systematic work if one expects to accomplish the maximum results in the limited time available. A year ago I had never owned or used a camera, but decided that I would buy one. Knowing nothing about photography, I went to all the stock houses in my city and secured a large supply of catalogues, and these were studied over during the next two months. I decided, after this study of the merits and demerits of the various models, that a Star Premo, 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$, was the one that would best satisfy my needs and my purse. I then began watching the windows of the larger dealers who occasionally offer second-hand or shop-worn cameras; and, on the twenty-third of March, I found what



SUNLIGHT, SHADOW AND REFLECTIONS

CAMERA CRAFT

I wanted. It was a Star Premo, $3\frac{1}{4} \times 4\frac{1}{4}$, with reversible back, rising and falling front plate holders and tripod, all for fifteen dollars because slightly shop worn. I might as well explain, however, that it makes little difference what camera one gets to begin with; because, if the interest maintains, it will be found that some different camera seems to more nearly fill the individual requirements. But let the first camera have a ground-glass focusing screen. With it one can compose the picture to be taken, can judge better as to its merits, while the visual effect of obtaining the focus, observing the varying brilliancy of the image, and otherwise studying the full-sized picture before exposing, makes for more rapid progress in learning.

Deciding to do all the work myself, I purchased, at the same time, all the necessary material for finishing my own pictures. It was Thursday when I took my camera home and I must needs wait until the next Sunday before taking my first picture. In the meanwhile, I carefully studied the book of instructions and made myself as familiar as possible with the workings of the camera. Sunday found me at a nearby park and a few exposures were made. That evening, after all had retired, I took possession of the kitchen, then as now my only dark-room, and proceeded to develop the plates I had exposed. It is surprising what good results a novice will sometimes secure, in spite of his ignorance and lack of experience. This luck favored me, my exposures were approximately correct, and I obtained some fair negatives. But the prints were disappointing; my paper supply consisting of Solio when I should have had Velox, on account of my lack of daylight working hours. I secured a supply of the latter and made some prints, which, while better, still lacked brilliancy and detail.

The next Saturday evening I went to an art store having a photographic supply department and had a talk with the man in charge about the making of pictures. He sold me a copy of the "A B C of Photography," and through that I secured an insight into the why and wherefore of making pictures, together with an invitation to send for a sample copy of CAMERA CRAFT. I became a subscriber and it is needless to say, a pleased and satisfied one.

From that time on my work rapidly improved, and when, in June, I was asked to make a flashlight picture of a banquet, I undertook the commission with all confidence, although I had to borrow a larger camera with which to make the exposure. The difficulties encountered and the means taken to overcome them I have described in a previous issue. This work brought me the first money I had earned with my camera and it opened my eyes to the financial possibilities of photography. I let it be known among my friends that I was prepared to take orders for any kind of out-door pictures or post cards, and it was not long before the work coming in made me feel the need of a larger camera. A long-focus 5×7 camera, fitted with a good rapid rectilinear lens, was purchased and the orders for work increased. Of course I made many failures, but as I nearly always exposed two plates, I was usually able to deliver the goods. All the while I was doing a lot of experimental and practice work, taking interior views at home, trying difficult subjects for the experience obtained, and the like. About this time, I adopted the Wellcome Exposure Calculator as a guide, finding it always correct, such errors as were made being due to my own lack of judg-

MY FIRST YEAR IN PHOTOGRAPHY



SOME OF MY EARLIEST PORTRAIT WORK

ment, such errors being of less and less frequent occurrence as I learned to use the calculator with more judgment. I always keep an accurate record of all the data concerning each exposure, noting in addition thereto the results as the negatives are developed. These records are of great value for future reference.



HOME PORTRAITS THAT PLEASED THE CUSTOMERS

CAMERA CRAFT

Early in September, I became interested in home portraiture and read all the literature on the subject that I could obtain, but was unable to get satisfactory results. After wasting several dozen plates on some of my most patient friends, I decided to get a set of the "Library of Practical Photography," advertised in this magazine. At the same time I invested in an anastigmat lens of symmetrical type, one working at f-6, and giving soft outlines at full opening. The instructions laid down in the "Library" in regard to position of subject, position of camera, control of lighting, and all that, are so simple and efficient that I had no trouble in at once securing good results. This gave an immediate increase of business, orders for portraits coming in quite rapidly after the first few were



MY DARK-ROOM IN THE KITCHEN

found to be successful. I now command four and five dollars per dozen for home portraits in cabinet and 4x6 sizes.

I have, of course, made some flashlight pictures, mostly groups and interiors, using a flash bag and instantaneous powder. I find the flash bags bring business, as most people object to the smoke and dust attending the use of unscreened flashes in the homes. The bags also soften the light, doing away with the harsh effects so often noticeable in flashlight pictures.

Practically all of my developing is done in a tank of the reversible type, using a thirty-minute pyro formula. This gives me the best obtainable results for all classes of work. At the end of the prescribed time the plates are removed from the tank and examined before the ruby light; those that seem undeveloped being returned to the tank for a little more strength. After fixing and before washing, I again examine each negative, this time by holding before a sheet of white paper against the wall where it will reflect the light. All objectionable highlights are at once softened down with Farmer's reducer before being placed to wash. I have found that the makers of the various plates and papers are

MY FIRST YEAR IN PHOTOGRAPHY

glad to give any advice asked for concerning the manipulation of their products and I always avail myself of their kind offices when in difficulty.

Early in the game I learned to confine my efforts to one good make of plates and one of paper, and until I have thoroughly mastered these I will leave the others alone. I have seen splendid pictures made with the plates and papers I am using and I know that what others can do can be done by some one else. After all, a picture is really made before the lens is uncapped, and it matters little what particular medium or material be used if the work be skillfully done.

The accompanying illustration is a flashlight showing our kitchen, or a portion of it, when ready for photographic work. During the day the material on the table and sink is safely stored away in a convenient cupboard. The sheet of white paper on the wall over the sink is the one referred to above as used for



INDIAN SUMMER

examining the negatives. My ruby light, a home-made affair, is not shown in the picture. It is glazed with a 10x12 ruby glass covered with a sheet of post-office paper, giving me plenty of light of a safe quality. There is nothing more annoying and uncomfortable than being compelled to work by an insufficient light. The extra time and cost expended in making a good ruby light are well repaid in the added comfort and satisfaction derived therefrom, particularly if one has much work to do.

A point that I wish to particularly emphasize is the importance of specializing if one wishes to do successful work. It is obvious that the worker who confines his time and energies to one branch of photography will make better pictures in that particular line than can the one who aspires to all-round photographic work. It is my ambition to so perfect my work that I will, in the near

CAMERA CRAFT

future, be able to devote my entire time to photography as my chosen profession. So far, devoting only spare time to the work, I have been able to accumulate quite a serviceable equipment, including a reflex camera that I find invaluable for child portraiture, work that could not be done with the ordinary type of camera. As my receipts and expenditures for the year may be of interest to the reader, I will append them herewith:

Equipment on hand, less depreciation.....	\$119.40
Cash received during year.....	188.70
	<hr/> \$308.10
Total expenditure during year.....	281.42
	<hr/>
Surplus for the year.....	\$ 26.68

The reader should bear in mind that a large portion of the total expenditure shown above represents material used in experimenting and in gaining experience, items that will figure less and less each following year.



AT THE HORSE SHOW. MADE WITH A HALL MIRROR CAMERA

Death of Walter Zimmerman

It is with the deepest regret that we announce the death of Walter Zimmerman on June sixteenth at his home in Philadelphia. It was but a short time before that we received one of his customary cheerful letters, this followed a few days later by a letter from Mr. Porterfield advising of his serious illness, an attack of pneumonia. Mr. Zimmerman was well known as a leading pictorialist, an untiring investigator and experimenter, and a consistent champion of photography as a means of art expression as well as a process of wide and varied commercial application. As a valued contributor to our pages, his wide knowledge of photography is known to all our readers. He had been selected by the National Association to demonstrate pigment printing before that body at its coming convention. Whole souled, kind, genial and lovable, he was a friend of photography whom we can ill afford to lose.

STEREOSCOPIC DEPARTMENT

The Pleasure of a Stereo Camera

By A. T. Hudelson



With Illustrations by the Author

I have been an enthusiast for years in making and collecting good photographic work. While I am especially interested in natural scenery and also in the study of botany with the camera, I will have to admit that until the last two years I had been working very blindly; making and apparently enjoying photographs with but two dimensions—breadth and height, with a very slight appearance of the third dimension, depth.

My interest in this line of work was aroused by a set of stereoscopic slides that I purchased to be used by a class of students as illustrating the scenery and peoples of a certain foreign country. The sets proved so interesting and instructive, and conveyed such a natural condition of the scenery, that my interest was at once aroused. I soon became the owner of a combination stereoscopic camera, and at once began to produce slides that were equal to any I ever purchased. My combination camera is very much like the one described by a writer some months ago in *CAMERA CRAFT*. However, I leave the combination at home



THE MISSISSIPPI AND BRIDGE AT FORT SNELLING

By A. T. HUDELSON

CAMERA CRAFT

and take only the stereoscopic camera when I go out to make real pictures, pictures conveying all three dimensions, breadth, height, and depth, in their relative proportions. May I go a little further and state that any one with normal vision, on looking at a pair of stereoscopic prints, $3 \times 3\frac{1}{4}$ inches in size, through a good stereoscope, will find that the view becomes not only an actual space to the eyes, but a life-size representation of the scene. Objects will appear at the natural distance from the eyes as one would see them from the point where the camera stood. It is a real pleasure to me to be able to go to my stereo cases, pick out the slides of a particular pleasure trip I have made, and live it all over again. Or I can sit by my fireside with a friend and tell him of the pleasures of the tour while he is actually enjoying the scenery as we proceed on our journey.

The accompanying slides were made on a trip out of St. Paul, Minnesota, in the spring of 1911, one taken on an interurban car. Stopping first at Fort Snelling, a negative was made of the old Round Tower, and also of the Mississippi River and two bridges. Thence to the Minnesota State Soldiers' Home, photographing the eight-inch gun captured from Cervera's flagship in the battle of Santiago. From the Soldiers' Home the route takes us up Minnehaha Glen, our camera freely used on the ever-changing beauty thereof until we reach the falls made famous by Longfellow's poem, "Hiawatha." Returning to the city on another car line, a stop is made after crossing the river, with a walk of a short distance along the east side of the bluff. Here a view of the Mississippi framed by a concrete arch of the Boulevard bridge is secured, together with a number of other views of the river and various waterfalls.

This trip, made in one day, through the dozen slides resulting, assures the repeated pleasure and enjoyment of the tour. The slides, a stereoscope, and the trip is again taken, seated comfortably at home.



MINNEHAHA FALLS AND BRIDGE

By A. T. HUDELSON

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

A GOOD ACID FIXING BATH: I have never seen the formula of this fixing bath published, but it was given to me by a fellow worker and I have used quantities of it for fixing plates, films, and prints and always found it satisfactory:

Water	64 ounces
Hypo	16 ounces
Sulphite of soda, anhydrous	$\frac{1}{4}$ ounce
Alum, powdered	$\frac{1}{2}$ ounce
Glacial acetic acid, 99 per cent.	1 ounce

Dissolve each chemical thoroughly in the order named. Try putting hypo in a small cheese-cloth bag. It dissolves more quickly and is cleaner. The same solution may be used interchangeably for films or prints. Throw it out when it becomes milky.—E. V. V., California, I. P. A. XI 1909.

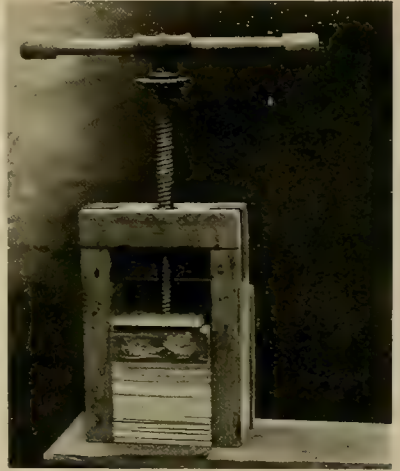
A GOOD DEVELOPER: There are so many who have trouble in selecting a good developer, one that will work well with many different kinds of developing paper, that I wish to give the readers of CAMERA CRAFT the benefit of my experiments, the result of which is a developer that has proven very successful in my hands. This developer I now use for developing several kinds of gas-light papers, including Cyko, Argo, Badger, and others. Dissolve one M-Q tonic in five ounces of water, and one package of Microgen in another five ounces, finally adding the two together. This gives a fine developer and one that will develop a large number of prints before its strength is exhausted. No friction marks will appear on glossy cards developed in this solution, and I have developed as many as three dozen and a half post cards in the amount of developer given above.—Lewis D. Capen, Mich.

TO REMOVE EXCESSIVE PYRO STAIN: The negative should first be well softened by soaking; old negatives will require a half hour or more. Then immerse in a bath made by adding one ounce of a saturated solution of permanganate of potash to twenty ounces of water, leaving therein until slightly browned. Rinse well and next place in a bath composed of one ounce of acid hardener in sixteen ounces of water for at least five minutes. The hardener is that used regularly in fixing baths for gaslight prints. If one operation is found

CAMERA CRAFT

insufficient, repeat, after washing for a few minutes. There will be a tendency to slight reduction according to the time the negative is allowed to remain in the permanganate bath. A final washing of half an hour should be given. Should the removal of the stain and the slight reduction flatten the negative too much, a strong metal developer will increase its strength. The tray should be rocked while the negative is in the permanganate solution, and also at first when put in the hardening solution.—L. C. B., Indiana.

FLATTENING POST CARDS: The illustration herewith makes a description almost unnecessary. The base is an inch board, about 8x12, to give good foundation; the up-rights are 2x4, about a foot long; while the piece at the top is of the same material, put on and held firmly in place by two pieces of flat iron bent to form angles as shown. The distance between the two up-rights is just enough to make the cards fit snugly, and a piece of thin board at the back helps to keep the cards evenly placed. The screw is an ordinary carpenter's bench screw that can be obtained at any hardware store. A hole is bored in the top cross-piece and the threaded sleeve fastened in position, completing the press. After the cards are dried, they are placed, face down, in the press, a 2x4 block with a smooth face placed on top, and pressure applied by means of the screw. The longer the cards are left under pressure, the better the results.—F. Storck, New Jersey.



RUBY LENS CAP FOR ENLARGING: Procure a cork from your druggist, one-eighth to one-quarter of an inch larger than the diameter of your lens-hood. Make it pliable by placing under foot on floor and rolling it backward and forward, using a slight pressure. With a thin-bladed, sharp pocket knife, cut a hole in the cork the same diameter as your lens-hood and smooth out with fine sandpaper. Then cut a square piece of ruby glass, one-half inch larger than the diameter of the cork, and glue it thereto. When enlarging, after focusing image on easel, cap lens with this ruby cap and you will be able to adjust paper in any position you wish, while the image which you are enlarging is on your paper to assist in so doing. The ruby cap also enables you to work with sufficient light to be comfortable without fogging your paper.—L. C. DeGroodt, Ohio.

PHOTOGRAPHING SMALL ANIMALS: A plan suggested itself to me one day recently, while trying to secure a picture of a woodchuck, one which may be helpful to other readers. I purchased a long rubber tube as nearly approaching the kind on the shutter bulb of my camera as possible. I connected the tube and bulb from my camera to one end of this by means of a short piece of brass tubing and the other end I slipped over the nipple on the shutter from which the regular bulb and tube had been removed. I placed my camera near

PARAGRAPHS PHOTOGRAPHIC

the mouth of the burrow, and directed the lens, focused, at the opening. The lengthened tube was carried through a clump of bushes directly back of the camera; and, concealing myself behind this shield, the little attachment made it very easy to get the picture herewith. While not all that could be desired, it shows that the plan works, and that its use will, with a few trials, give me a good picture.—L. S. Slater, New York.

BROWNS BY DEVELOPMENT: Cut down the given quantity of Satrapol (metol should give same results if the manufacturers claim that they are identical be correct) by making up the following formula, using distilled water. Boiled water seems to give iron reds to the brown, in my district, and it may do the same elsewhere.

Water, distilled	20 ounces
Satrapol	15 grains
Sulphite of soda.....	24 grains
Hydroquinone	60 grains
Carbonate of soda.....	380 grains
Bromide of potassium.....	7 grains

Accurately expose a print to develop up to a rich blue-black on full development in the above, and note time of exposure. This is the key to the timing. Having the correct or normal time for a regular print on a particular paper fixes it for all occasions for that paper. Different papers require different normal exposure times or time keys. To vary the color of the prints, lengthen exposure and dilute developer according to the following table:

EXPOSE	DILUTE	COLOR
2 times normal.....	3 parts water.....	Dead black
4 times normal.....	10 parts water.....	Sepia
6 times normal.....	18 parts water.....	Chocolate
20 times normal.....	30 parts water.....	Red
30 times normal.....	60 parts water.....	Orange to yellow

The addition of five to six grains of bromide of potassium to the ounce of the developer with ten parts water diluted and normal exposure doubled seems to radically change the brown to a rich earth brown.—Sigismund Blumann, California.

PRINTING POST CARDS: A method of working which has been of great help to me in the production of a good many thousand post cards during the last few years is as follows. Two negatives are printed from at the same time the distance of each from the light being varied so that both will print in fifteen seconds. While the paper under one of the negatives is printing, the paper is being placed in the frame behind the other, requiring, in my case, about thirteen seconds. The frames are then exchanged and the operation repeated. With a little practice, it is not hard to keep track of the two different printing distances, and, as the light is in use all of the time, a production of four cards per minute is secured. The cards may all be thrown in one pile to be developed together, although I have found it easier to keep them in separate piles so as to have each kind in the developing tray by itself.

CAMERA CRAFT

In developing, I slide a card into the developer face up, follow it, in four or five seconds, with another one underneath, continuing in that way until the first one is fully developed, sometimes having six or eight in the tray at once. As fast as developed, they are thrown into a pan of water, and another one slipped in to replace it on the bottom of the pile in the trays. They are taken from the water and placed in the hypo bath by an assistant, who also keeps them well stirred. In this way I have developed one hundred cards in eight or nine minutes, always having one dry hand to handle the dry cards, with no danger of carrying any acid or hypo into the developer.

I might add that I used a sixty-watt tungsten lamp for printing, and if any of the negatives are too dense to print in the required time, a little reduction generally remedies the trouble.—F. D. Burt, Vermont.

ONE WAY TO TITLE PRINTS: Printing post cards from $3\frac{1}{4} \times 5\frac{1}{2}$ negatives one generally finds that a little can be spared from one end or the other, particularly if the view be an upright one. If the opening in the mask be cut $3 \times 4\frac{1}{2}$ and then another opening cut at the end, a quarter of an inch wide and equal in length to the width of the opening in the first mask, a panel will be formed that will print just below the picture inside of the mask. The emulsion can then be cleaned off that end of the film and the title lettered directly on the film in such a position that it will print inside this narrow mask at the end of the picture. A typewriter can be used to good advantage in printing the title. It should be typed in the proper place on the back of the negative, or on onion-skin paper and then pasted in position. In using a typewriter it is advisable to write the line, allow it to dry for a minute, and then go over it again to increase the density. If this little panel prints too dark, a strip of tissue paper can be pasted over the opening in the mask. If one is using 4×5 negatives, this plan is even more suitable, as the blank portion at the end of the space is occupied with the title, which can be lettered on a piece of tracing cloth or onion-skin paper and lightly attached over the narrow opening. Even with the $3\frac{1}{4} \times 5\frac{1}{2}$ negatives the small tracing cloth negative with the lettering upon it can be used in place of cleaning away the film at that end, as the best part of the negative is often the part shown through the mask when it is shoved up out of the way of the small mask opening. A post card titled as advised is shown herewith.—Dwight P. Church, New York.



Sunlight and Shadow

Art is inspiration.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

Vol. XIX

San Francisco, California, August, 1912

No. 8

Finding a Market

One of the most frequent inquiries that reach our desk is: "Where can I sell some of my pictures?" The amateur in particular is inclined to think that there must be a demand for his productions when photographs are used to such a great extent in illustrating the magazines and periodicals of the day. But let him study a few of these publications. He will find, quite often, that the reproductions of photographs, despite their large number, are directly connected with the text, are apparently made with the one idea of illustrating the articles with which they appear. Occasionally the editor uses an illustration, one that is particularly appropriate to his publication, that lacks any connection with the text matter. Such are generally used merely as fillers, and it is an easy matter for the editor to select a suitable one from the large number always on hand, pictures contributed by workers who do not expect or desire more than the honor of having their work reproduced.

Even when payment is made for such selected photographs, it is mainly as a matter of form, the amount being so small that there is really little encouragement except to the worker who may have a good idea as to just what publications are most promising as possible purchasers and just what kind of pictures will best suit the individual editor's tastes. Experience will teach and there are books on the subject that will give much help and information and save much postage and trouble. The average price paid is one dollar. Let us suppose the seeker after such a market decides to present his wares. He can make up five sets of ten pictures each, and send them to five publishers whom he believes might perhaps appreciate his particular class of subjects. There is the postage on the five sets, postage that must be sent to insure their return, and postage on the five letters, all to be added to the cost of the prints. One of the five publishers may decide to retain one or two of the prints, perhaps to be paid for upon publication, frequently some months later. Assuming that two are accepted, and that, in the case of the inexperienced sender would be most encouraging, and the two dollars sent promptly. How far would the amount go towards paying for the fifty prints made, the postage, and the time and trouble expended. One can see that the market is not an inviting one. Trying to profit by it would be like trying to supply a builder with scrap lumber by hauling it to him for inspection and possible purchase should he happen to need it in addition to the regular supply purchased in accordance with the architect's specifications.

CAMERA CRAFT

Failing the required confidence to himself write for publication, the worker might find a market at the door of the writer who contributes these illustrated articles that appear in the magazines. The result of such an effort came to our notice not long ago. One of our readers happened to have a number of pictures that illustrated irrigation methods as practiced in a certain section of this State. In one of the magazines that devote considerable space to the development of the West he found an article that displayed considerable knowledge of the territory in which the pictures had been taken. A letter addressed to the writer thereof, in care of the magazine, was delivered, and brought back a reply stating that the pictures would have attention if sent. The photographs were forwarded, the magazine writer paid ten dollars for twelve of them, and later they appeared as illustrations to an excellent article. This incident should suggest a possible market; it seems a more logical plan than sending miscellaneous prints to publishers or editors. Our friend of the irrigation pictures might have spent many dollars in postage in a fruitless sending of these pictures to editors and publishers who could have no use whatever for them without an article on the methods which they illustrated.

The subject is an interesting one and one that we will return to at a later date. In the meanwhile we would be pleased to hear from any of our readers who have had experience, either gratifying or otherwise, along these lines.

“At Kawaiahao Gate”

Our frontispiece this month is a reproduction from one of Mr. Clay's excellent Hawaiian pictures, this one representing a gateway to the churchyard of Kawaiahao (pronounced Kar-wi'-ar-har'o) Church in Honolulu, often called the "Coral Church." This house of worship, one of the earliest Christian churches in the Hawaiian Islands, was built during the reign of Kamehameha III., mainly by native labor, wholly contributed for the purpose. The building fund of some six thousand dollars, a large sum in those days, was raised by popular subscription, the king giving one-half. The work was begun in 1836 and the building completed in 1842. The church edifice and surrounding walls are constructed of coral rock, which was quarried from the reefs that surround the harbor of Honolulu.

The photograph from which this reproduction is made was taken during a light shower and with a short time exposure.

Doctor Early Passes Away

A martyr to his professional zeal and his desire to alleviate human suffering, Dr. L. M. Early passed away Thursday, June thirteenth, at Columbus. His death was the result of burns caused by X-ray work, at which he was a pioneer and specialist. The beginning of the trouble dates back to the time when the dangerous character of the X-rays was not recognized, his incessant experimenting at that time resulting in a disease that gradually spread until the end came to his work. As President of the Artura Paper Company, the photographic world found Dr. Early a whole-souled, genial character of the highest type. He was a man who endeared himself to all who knew him, a man of dignity and a man of character as befitted the high position he held in the medical profession.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

The New Hydra Plate

Some months ago I gave an account of the discovery of the new emulsion, in which by the use of hydrazine, reversal of the image was inhibited and over exposure rendered impossible. It was promised at the time that commercial use would be made of the discovery and we now have the result in the "Hydra Plate" that the Paget Company have placed on the English market. Reports from various sources confirm all that has been claimed for the new comer, which bids fair, sooner or later, to revolutionize the character of amateur, and markedly affect the perfection of professional work. A local firm, Hirsch & Kaiser have ordered a small supply that will be available for experimental purposes about the time this reaches the eyes of my readers.

The following excerpts from the demonstrator's remarks, published by the *British Journal of Photography*, will further elucidate the matter.

The first point for me to make clear is the expression, over-exposure. If the photographer is taking, say, a landscape, in which there are some very deep, heavy shadows, he cannot give his plate, assuming that he is using any other than a hydrazine plate, sufficient exposure to bring out the detail in the heavily shaded parts, because he knows full well that if he did, the most brilliantly lighted parts of his landscape would be hopelessly over-exposed and the negative spoiled.

This, then, is the claim Mr. Caldwell, the discoverer, makes, namely, that by the use of hydrazine in the plate, the operator can give the correct exposure for the deepest shadows, and the parts of the negative that would otherwise be spoiled in an ordinary plate will be in their proper relation to the shadows.

Therefore, we see, in the first instance, that the plate is really under-exposed, that

is, not properly exposed, whereas in the latter instance it is properly exposed.

Hence we see that the term over-exposed should be used with caution. With any ordinary plate we have to expose for the highlights, with the result that we get no detail in the shadows. But if we had exposed for the shadows, the brilliantly lighted parts would have all flattened out owing to over-exposure. But it is only over-exposure of part of the picture. With our "Hydra" plate there is no such thing as over-exposure, and hence we can always expose fully for the shadows, knowing well that the high-lights will still come out in their proper gradation, and so we get a perfect negative.

What, then, is the best way to proceed with the Hydra plate? Surely this. We estimate the exposure necessary for the subject in any way we like, either by meter or by our own judgment, then simply expose the Hydra plate from ten to forty times as much as our original estimate suggested. Thus we shall be confident of getting out good detail in the shadows without losing it in the brilliantly lighted portions.

I think I can be pardoned for saying that this is an immense step in advance in the photographic art.

Here is a typical view of an ordinary landscape. This first slide was given what was considered to be about the correct exposure.

It is as well to add, in closing, that up to the present there has been no known developer able to develop a heavily over-exposed plate.

We have found that heavily restrained pyrocolls will develop a negative fifty or sixty times over-exposed, but good results are not easily got beyond this degree. In other cases of over-exposure the work has had to be done by what is termed physical development. Mr. Caldwell has invented a developer which we call Hydra developer,

which will develop plates in which the exposure has been carried so far that an image appears on the plate, which means many thousands of times over-exposed, and still give a printable negative.

For ordinary snapshot work Hydra plates can be used and developed with ordinary developers, and it is only on the very heavily over-exposed plates that Mr. Caldwell's developer is absolutely essential to success.

I said at the outset that this hydrazine is used on sensitized surfaces. Sensitized surfaces include glass plates, negative and positive, paper and celluloid films. Hydrazine has been successfully used for all these.

Variability of Daylight

A paper on "Daylight," given by Edward S. Nichols before the Franklin Institute and published in their Journal for April, 1912, contains many facts of interest to photographers, the first is one that few ever realize, the author points out that we live under a van-filter screen, that is the atmosphere, which cuts out 8 per cent of sunlight at the extreme red end of the spectrum and 50 per cent of the violet at the other end, the probability being that the atmosphere is completely opaque to the great part of the ultra violet rays emitted by the sun. This opens the way to interesting speculations as to what would happen if the atmosphere changed its absorption qualities, and also as to what does happen on other planets where the atmospheric filter differs from ours. At very high altitudes where our atmosphere is thinner and less dense we can experience to a certain small extent some of the effects, but naturally practical experiment cannot go very far. A point that has recently been much discussed by the public is the apparently small reduction of light that accompanied the recent eclipse. To the casual thinker the obscuration of ninety per cent of the sun's disc would involve a considerable loss of light that should be very appreciable, yet, as everyone now knows, the effect was not so very great. This will perhaps be better understood when we realize the normal fluctuations of daylight. The average brightness of daylight in mid-winter is only one-tenth of that in June, yet this loss is not visibly appreciated by us,

and the momentary fluctuations in the brightness which occur so often to the detriment of photographic work frequently involve a difference in the ratio of one to four. In point of fact the range of light-intensities to which our eyes are sensitive is so enormous that we do not notice small variations, and even a variation of one hundred to one is not very considerable when we consider that the ratio of sunlight to the feeblest light perceptible is about one hundred thousand million to one.

A point of some practical importance is the comparatively small brightness of a cloudless sky, and some interesting measurements are given by the author. These we tabulate from one of his diagrams. The period is only ten minutes, and the changes are remarkable.

Time.	State of Sky.	Intensity.
5.30 p.m.	cloudless	4
5.32 p. m.	—	6
5.34 p.m.	misty.....	6½
5.36 p. m.	clouds forming	10
5.38 p. m.	sunlit cumulus clouds ..	16
5.40 p. m.	overcast, rain beginning..	4

Applying these figures to the case of daylight enlarging, for example, it will be seen that at 5.30 with a cloudless sky four times as much exposure would have been required as at 5.38, when sunlit cumulus was formed. The author of the paper makes his observations with a special spectrophotometer, one collimator of which points towards the zenith or some other selected part of the sky, while a second collimator is directed to a standard acetylene lamp. Some very interesting facts have been discovered with this instrument in regard to the changes that take place in daylight throughout the day. The maximum brightness is not at mid-day, but a little after it, and the falling off in brightness in the afternoon is less steep than the increase in the forenoon. This is a point that might well be taken into account in exposure tables, which in general seem to assume that the brightness is equal at equal times before and after mid-day. It appears, however, from the curves given for the blue on a cloudless day in Switzerland, and presumably in summer weather, that 4 p. m. corresponds with about 10.45 a. m. and 6 p. m. with 8 a. m. Of course, these figures are subject to great varia-

A PHOTOGRAPHIC DIGEST

tions with the weather, but they appear to express the state of affairs in what may be called standard conditions. The forenoon rise and the afternoon fall in brightness are both far more rapid in regard to the blue end of the spectrum, the red end showing a comparatively very slight variation. There is therefore a continual color variation throughout the day which accounts in a considerable measure for some of the difficulties experienced in color photography. A point that we do not remember having seen mentioned before is the variation in daylight due to sunlight reflected back from the earth. Mr. Nicholls states that a large expanse of green foliage causes a modification in which the influence of chlorophyll absorption is distinctly visible, which effect is quite invisible over the sea or over a snow field.—*British Journal of Photography*.

Prints For Publication

At some time of his photographic career nearly every amateur obtains results which would be acceptable to the editor of an illustrated journal but, through ignorance of the requirements, is unsuccessful in securing publication. I have seen prints submitted which were hopelessly useless, and yet, treated properly, might have had a good chance. The following few hints which are the result of eight years' experience of Press photography may assist the amateur to obtain a few half guineas.

It may be taken as a rule, that it is futile to submit anything smaller in size than half-plate. In fact, with a few exceptions, a whole-plate print at least is desirable, and many press photographic firms are now using 12 by 10 size exclusively. But this need not deter the amateur, one of the daylight enlarges can be obtained for a few shillings, and will be found to suit most requirements. The size which the print should take really depends on the subject. If this contains fine detail, or is on a small scale, the print must be at least whole plate, but if the subject is bold and on a large scale, such as a head and shoulders, half plate print is sufficiently large. The reason is this, with the daily papers in particular, the prints for reproduction are extensively "worked up" by staff artists, and if the work can be done on a large print it need not be so care-

fully executed as would be the case on a photograph which had to be used the same size, and in the reducing process which takes place in making the half-tone block, all trace of the brush work disappears; whereas if the work has to be done on a small scale, it becomes more difficult and exacting, and takes more time. And a large print is always better from the block maker's point of view.

"Silver prints" used to be the cry of the art editor but to-day he is educated up to bromide and realizes that it is equally good for the purpose. Nothing but glossy paper should however, be used, and, if possible, the prints should always be glazed. I always use the pulp boards supplied for the purpose, as they are practically indestructible and require no preparation. To reproduce successfully in half-tone, a print should have plenty of contrast, clean whites, and good blacks, and yet the detail must not be obliterated. If "stress marks" appear, the print can be considerably brightened by careful rubbing over with a pad of wet cotton-wool as soon as it is removed from the hypo bath, but the use of the "non-stress" variety entirely obviates this rather risky proceeding.

The alum or formaline bath should never be omitted when prints are to be glazed, and if amateurs would only realize this, much less would be heard of their prints sticking. If the prints are wanted in a hurry they should be blotted, soaked in methylated spirit for about four minutes, and squeezed down on to the glazing boards, and dried by gentle heat in front of a fire; they ought to start coming off in about ten minutes.

When the photographs are finally ready for despatch the "text" or particulars must be neatly written on the back of the print, or on a slip of paper pasted to the back, followed by the photographer's name and address. If to be posted, they should then be packed between cardboard and addressed to "The art editor" of the particular journal chosen.

It may be mentioned in passing that a photograph can be submitted to and used by any number of journals unless it has been exclusively sold to one, when a special price should be obtained. In some cases an editor will pay a little more for the

CAMERA CRAFT

"first use" of a picture, and the photographer is at liberty to submit it elsewhere after it has appeared. The price paid by most journals for the "right of reproduction" of a photograph used, not larger than 6 by 4 inches, is half a guinea, and, above this size, a guinea or more. Some of the smaller weekly papers will not pay more than 5s. or 7s. 6d., and if further business is desired with them it is advisable to accept their terms. The dailies, however, invariably pay full price, and the *Daily Sketch* an additional 2s. if the picture is used in both their London and Manchester editions. It is well to note that this journal requires that prints should be supplied to their London office in duplicate, and arrive not later than 12 midday for the following day's issue.

Finally, it should be borne in mind that when a print has been submitted to a journal its pages must be watched, and, when publication is obtained, an invoice sent addressed to "the cashier" forthwith. Francis Collaas in *Amateur Photographer*.

Filter Flare

A good many workers have been annoyed at finding a curious patch similar to a flare spot on negatives made with a lens carrying a filter screen in front, and, the cause of this spot being somewhat indefinite, we have thought it worth while to attempt experimentally the reproduction of a similar effect. We took a very large single meniscus lens, and, using a thirty-two candle-power Osram lamp as the object, we studied and counted the various reflected images formed. The lens having its concave side towards the object, we found the usual two reflected flare images in front of the lens, and also two very distinct ones behind—one very close to the lens being probably due to a series of quadruple reflections, and another about one-third of the way from lens to the real reflected image, probably due to a double reflection. On placing a sheet of glass to represent a filter in front of the lens, a third distinct flare image appeared behind the lens, and about midway between the other two, this third image evidently being a reflection of one of the front flare images. It thus becomes evident that the placing of a filter in front of the lens will

certainly produce a new flare image behind, and though in a properly adjusted and corrected photographic lens matters are so arranged that the ordinary rear flare images are quite harmless, owing to their distance from the plate, yet a new image introduced by a filter, under conditions not foreseen by the optician who designed the lens, may quite easily be productive of flare spot. When the trouble does occur, the best remedy will be to put the filter behind the lens, for in this position it can only shift the rear flare images to a very small extent, and cannot possibly bring to the back of the lens an extra image which normally should be in front. In the case of a doublet, it would seem that a filter between the lenses may also be productive of flare spot, as it may throw back some of the flare images formed by reflection from the back lens. The safest place is probably in all cases behind the lens, which position is also advantageous from the point of view of safety and protection of the filter, though it has certain inconveniences in other respects.—*British Journal of Photography*.

A New Way of Using Gelatine in Pigment Printing

The direct employment of gelatine after the manner of "gum bichromate" has been practiced by several workers. It possesses the advantage of greater rapidity in printing and a longer tone scale; the disadvantage of greater difficulty of coating and greater resistance in water development, the method generally calling for the use of sawdust in the water. Herr Renger Patzsch, in *Das Atelier*, gives a method that seems practical and reasonably easy. He uses gelatine in cold solution, the latter being made by dissolving twenty parts of gelatine in a twenty-five per cent solution of chloral hydrate. The gelatine is placed in the solution until it is fully swollen; then slowly heated over a water bath until dissolved and kept heated for an hour, any evaporation being made good by addition of distilled water. The solution will then remain liquid in the cold, and can be employed like gum solution in the usual manner of pigmenting paper. The author advocates double printing one coat for the shadows, a second for the half-tones.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Coarse Grained Negatives

Complaints have reached us recently from several readers as to the coarseness of grain found in negatives made on certain plates, several brands being included in the reports. While ultra rapid plates are inclined to show more grain than do those of a slower speed, nearly all plates possess a fineness of grain that will permit of much sharper enlargements than those of which our correspondents complain. A tendency toward coarseness of grain is greatly increased by drying, or more properly allowing drying, of the developed, fixed and washed plates, in an atmosphere that is warm and damp. When the air is warm every precaution should be taken to see that it is as dry as possible. Moist air tends to slow drying and a granularity of structure that does not make its appearance where drying is achieved quickly.

Copying Ordinary Print

There is a photographer in the other end of town who has recently been called upon to photograph a number of clippings from some daily papers published in the East. He had all kinds of trouble, do what he would he could not get good contrast. To make sure that his fixing and development was not at fault he tried copying some ordinary lead pencil marks on the same quality of paper. Even these came out fairly good. Looking the matter up in our collection of bound volumes of other magazines he found the suggestion made that black velvet should be placed behind the copy. This was tried with great success. It seems that the paper being so thin what really prevents getting a clear image is the tendency of the lens and plate to search out and reproduce this faint image on the back of the paper. The clippings were placed on a clear glass in a large printing frame, a piece of black paper placed close in contact behind, and then the printing photographed. One particular piece of copy will caused trouble owing to the strong impression with which it had been printed, the letters being sunk into the web paper

so as to produce a strong relief on the back. Taking this clipping and slightly dampening it, afterwards ironing it flat with an ordinary flat-iron, remedied the difficulty completely. The two suggestions are well worth bearing in mind against the time one may have like work to do.

Surface Deposits on Negatives

Where hard water is used for washing negatives, one will often be troubled with scum-like markings or patches that may perhaps not be noticed until the negatives are dry. At this stage they seem rather hard to remove, and so they are if not treated in the right way. A bath made up of one ounce of hydrochloric acid in twenty ounces of water will generally prove effective. If used before the negative has become dry it should be diluted with a like amount of water. In fact, almost any acid application will remove them and that is one reason why they do not result from acid fixing baths while a plain fixing bath will sometimes produce them. Sulphuric acid will answer if allowed to cool after being mixed, but citric or acetic acid are not advisable except as mixed with chrome alum to counteract their tendency to soften the film. Citric acid and chrome alum form the ordinary clearing bath but as the mixture does not keep well, the first recommended, the hydrochloric acid well diluted is perhaps the most convenient.

Restoring Faded Prints

An Indiana correspondent wants to know how to restore faded prints. Every once in a while a formula for the purpose of restoring faded prints under the above heading. About all I can do is give the last one that came to my notice. Possibly it is one handed down from the days of albumen and will not work on the papers that have since followed; and again, perhaps it will. Probably it would work on the old time papers, those of the gaslight variety, but the resultant color would, most likely, be something undesirable. One can never tell. I would be pleased to hear an Indiana reader try the following and re-

CAMERA CRAFT

port on the result. If any of our other readers have any actual experience in restoring faded prints I would be grateful to them if they would come forward with their methods, stating just what kind of prints had been restored. The following is the formula nearest to hand:

A: Sodium tungstate	5 drachms
Water	32 ounces
B: Precipitated chalk	12 grains
Chloride of lime	3 grains
Chloride of gold	10 grains
Water	3 ounces

Let this last solution stand for twenty-four hours in the dark, contained in a dark glass bottle, well corked. Then filter and transfer to another yellow or amber bottle. Place the print to be operated upon in a solution made up of one to two parts of the B solution to forty parts of the A. When sufficiently intensified, immerse print in the necessary amount of the A solution to which has been added five grains of hypo to each ounce, until all yellowness has disappeared. The print should be removed from the mount by soaking in warm water until it floats off without the use of force.

Cleaning Trays and Dishes

It is my good fortune to visit dark-rooms, both amateur and professional, quite frequently, often doing so with the idea of trying a new paper, developer, or something of the kind. The first thing wanted is a tray, and that tray,—it almost invariably has a good deposit of metallic sort of dirty compound in the corners, sometimes entirely covering the inside of the dish. Of course, it does but little if any harm as long as the dish is used for but the one purpose and with the one developer or whatever the solution may be, and yet it would be better to have it always clean. But when one wishes to try a new developer, it is not justice to it to employ a tray well coated with a deposit left behind as a result of using the previous formula. Every photographer has a sort of vague idea that clean trays would be an advantage and he has often thought he would mix up one of the strong acid solutions he sees recommended for the purpose, from time to time; but he does not do it. However, he could easily supply himself with a good stiff brush, and a cake of fairly strong soap is always lying somewhere about the

sink where he would be most likely to wash the dish. Then all he would have to do would be to rub the brush on the cake of soap, scour it around in the offending corners, and then give the dish a good rinse. A brush is more cleanly to handle and much more effective than a cloth; that is, the right kind of a brush. The brush with a handle at one side of the bristles like an old tooth or nail brush is not suited to the purpose. What is wanted is a stiff brush such as painters call a "sash tool." This should be trimmed down so that the bristles are not too long and pliable. A hole through the handle and it can be hung right at hand near the necessary cake of soap and running water, and then the perfect cleaning of a tray becomes but the work of a few steps and a few seconds.

Sulphite in the Developer

The recent work of Dr. Mees concerning the sulphite fog is of great practical importance. Without going into details of a very elaborate and undoubtedly reliable investigation, there appears to emerge this very serious fact that sulphite in strong solution causes fog. Sulphite in very dilute solution causes still more fog; at about two and one-half per cent it produces least fog. It therefore follows that if a developer be made up with the correct amount of sulphite and be then diluted, additional sulphite to two and one-half per cent should be added. We dilute to obtain thin negatives, but thin negatives more than others need to be fog-free; and we have this fogging property of dilute sulphite solution as an explanation of many failures.

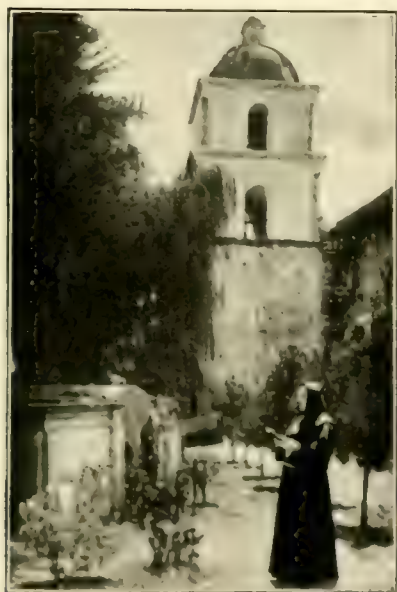
The New Cyko Manual

A new edition of this popular booklet is to hand. If your dealer has not got a supply for free distribution, write directly to the Ansco Company, Binghamton, New York, and ask them to send you a copy. The chapters on Double Printing, Tinted Borders, Dodging, and particularly the simple and instructive information concerning enlarging, are very informative. And when you write for a copy of the booklet, ask them to send a copy of the new film booklet as well. Address Ansco Company, Binghamton, New York.

OUR BOOK SHELVES

"Three Wonderlands of the American West"

The author, T. D. Murphy, an observant and appreciative traveler and a writer who can visualize the beauty and grandeur that he describes, has given us these notes in a handsome book of one hundred and eighty pages. It contains sixteen reproductions in colors of original paintings by T. Moran, and thirty-two duogravures



AN ILLUSTRATION IN "THREE WONDERLANDS"

from colored photographs of a high character. There is also included maps of the three principal regions described, the Yellowstone, Yosemite, and Grand Canyon. An additional chapter covers other natural wonders of the great American West. Published by L. C. Page & Company, Boston. Price, three dollars.

"Die Blitzlicht-Photographie"

This is the fourth edition of this valuable German work on flashlight photography, originally written by the late Herman Schmauss,

but almost entirely rewritten by Dr. H. Beck. It deals in a most thorough and comprehensive manner with the practical side of flashlight work, mainly with the use of commercial flash powders. Methods and devices for firing the powder, hints on the calculation of the amount of powder needed for particular cases, advice on the making of flashlight portraits, both with and without daylight as an accessory, are some of the subjects given prominence. Some notes on the making of screen or color plate transparencies, by flashlight, are particularly interesting and suggestive. Illustrations, plates and diagrams add greatly to the value of the book. It is published by M. Eger, Leipsic, Germany. Price three marks. Any of our readers desiring a copy can send us one dollar and we will order a copy sent direct.

"Anleitung Zum Photographieren"

This is the fifteenth edition of a book that has attained the widest popularity in Germany as an introduction to photography. It is issued under the editor-authorship of Dr. G. Hauberrisser, who has brought this last edition fully up to date. Illustrations show the results of errors of exposure and development, and, all in all, the book is one that will prove of the greatest value to beginners who read German and can appreciate helpful advice and information. The publisher is M. Eger, Leipsic, Germany. Price one mark, fifty pfennigs. Upon receipt of fifty cents we will order copies sent direct to those wishing us to do so.

"Im Reiche Der Kamera"

Translated, "The Realm of the Camera," is a handsome, well illustrated book, that will appeal strongly to all our German readers. It is the work of Herr Felix Naumann and forth as a revised and enlarged edition of a book printed in English some years ago under the title of "Photographie Pastimes," written by the late Herman Schmauss. The author deals with a wide range of amateur photographic work, miscellaneous, marvels of photography, the work of the camera in the

CAMERA CRAFT

production of seemingly miraculous results. The book would be eminently suited to the purpose of one desiring to prepare a lecture on the "Marvels of Photography" or some such popular title. He would find this book a source of valuable information. The ordinary worker will also find the book informative and entertaining in showing him what is possible along the line suggested. Published by M. Eger, Leipsic, Germany. Price four marks. We will order copies sent direct to our readers upon receipt of one dollar and thirty cents.

"Over the Pass"

Mr. Frederick Palmer, author of "Over the Pass," recently described in these words his methods of work: "I put in hours in my study, without going near my desk, living with my story and my characters. I

must know my story as one knows a chapter out of his own life which is finished. I must know the characters as I know the members of my own family—how they look, how they walk, and what they would say or do under given circumstances. This is superfluous detail which is never given to the reader, but vital to the author if he is to have a sure and convincing touch."

The Scribners are advertising "Over the Pass" in a novel way. Believing that all that is necessary to insure the success of the book is to bring people to read a portion of it, they have prepared a little pamphlet giving a facsimile of the first chapter. This, they announce, they will send to anybody on request, free of charge, who gives his name and address. Charles Scribner's Sons, 153-157 Fifth Avenue, New York.

CLUB NEWS AND NOTES

Club Secretaries and others will oblige by
sending us reports for this Department

California Camera Club Annual

As usual, the California Camera Club has distinguished itself. This time it is a handsome booklet of sixty-four pages and cover, containing many illustrations reproduced from work of the members, some ten articles on photographic subjects from the same source, notes concerning the activities of the club, together with the announcement of local and other dealers. The price is twenty-five cents, by mail thirty cents. It is a booklet that the members should find most acceptable to their friends, both at home and in other parts of the country, and it should have a good sale. Its publication should result in the addition of not a few new members to the club, setting forth, as its pages do in a most attractive manner, the many advantages to be derived from membership. Much credit is due Mrs. M. E. Chase and H. S. Hoyt, editor and associate editor, for the high degree of success which they achieved in this, the first club annual.

Photographic Art Salon

The Association Belge de Photographie announces a Salon of Photographic Art, to be held on the occasion of the Ghent Universal and International Exhibition in 1913. Thanks to their efforts, a salon of artistic photography will be installed as a part of this International Exhibition; and, for the first time in the history of photography, it will be placed on the same footing as fine Arts in general. The efforts of their committee have arranged that a place worthy of our Art shall be put at our disposal free of charge. Situated between the Salon of Fine Arts and that of the Decorative Arts, this Salon of Photographic Art will necessarily be visited by all visitors to the Universal Exhibition of Ghent.

Rules of the Salon and the necessary papers to be filled in sending pictures, preparing of the catalogue, etc., will be forwarded upon application to P. Limbosch, General Secretary, 3, place Royale, Bruxelles, Belgium.

CAMERA CRAFT

3384—S. P. Clay, care Nichols & Shepard Co., Battle Creek, Mich.
 $2\frac{1}{4} \times 3\frac{3}{4}$, $3\frac{1}{4} \times 5\frac{1}{2}$, developing papers, of landscape views of the lakes and rivers which abound in this vicinity; for Western views. Class 1.

3385—Charles I. Reid, Box 510, Millersburg, Pa. Up to 5×7 and all sizes of enlargements, printing-out and developing papers, also transparencies, of landscapes, night photographs, curiosities, portraits, etc., also lantern slides; for curiosities, views, animal studies, portraits, lantern slides, etc. Class 1.
 3386—Lorenz Stolz, Box 7, La Grange, Texas. Class 2.

3387—L. H. Dobak, R. F. D. No. 2, Ortonville, Minn. Class 2.

3388—Charles H. Pratt, 438 10th St., Troy, N. Y. Class 2.

3389—J. C. Banks, Wren, Ore.
 $3\frac{1}{4} \times 5\frac{1}{2}$, developing paper, of Oregon scenery, mountains, lakes, Pacific Ocean scenery, and wild animals; for nothing but natural scenery, timber, ocean, river, mountain, lake, waterfalls, cascades, or wild animals, also anything out of the ordinary. Post cards only. Class 1.

3390—D. M. Wogaman, South Canon, Colo.
 $2\frac{1}{2} \times 4\frac{1}{4}$ and larger, developing papers, of landscapes mostly; for landscapes or city scenes. Mostly post cards, but larger will be acceptable. Class 1.

3391—H. E. Moone, 3852 Windsor Place, St. Louis, Mo.
 $2\frac{1}{2} \times 4\frac{1}{4}$, developing paper, of outdoor work; for the same. Class 1.

3392—Frank Patterson, R. F. D. No. 2, Box 52, Hood River, Ore.
 Stereos, postals and $6\frac{1}{2} \times 8\frac{1}{2}$, developing paper, of army postals, scenery in stereos, and $6\frac{1}{2} \times 8\frac{1}{2}$ prints; for stereograms of interest only. Class 1.

RENEWALS.

186—L. T. Brodstone, Superior, Neb.
 Post cards, of general subjects; for views of cemeteries, city parks, lodge halls inside and out. Class 1.

504—Wm. A. Bixler, R. F. D. No. 1, Anderson, Ind. Class 3.

1714X—H. A. Nerison, Westby, Wis.
 Post cards only. Class 1.

1864—A. G. Lindgren, Echo, Minn.
 Published in June issue by mistake, notice belonged to member No. 3330.

1956—S. A. Rote, Ridgway, Pa.
 Post cards, printing-out paper, of general views, scenery, and manufacturing plants; for general views. Post cards only. Class 1.
 2229—Clare W. Faulkner, Box 647, Dawson, Yukon Ter., Canada. Class 2.

2948—W. E. Jordan, care American Beauty Stove Co., Erie, Pa.
 $3\frac{1}{4} \times 5\frac{1}{2}$, developing paper, of surf scenes, landscapes, monuments, and historical places; for the same. Class 1 for good work.

2954—Anton W. Lachnit, 822 East 8th St., Columbus, Neb. Class 2.

2968X—Henry A. Swanson, R. F. D. No. 1, Box 22, Swea City, Iowa.
 Post cards only. Class 1. Will return cards to persons I am owing soon, as I have not been able to exchange any for several months.

2979—W. H. Waggoner, Eureka, Ill. Class 3.

2980—H. C. Wilson, 1252 Agnes Place, Memphis, Tenn.
 Post cards, first-class work only. Class 1.

2984—Chas. M. Seymour, 1186 Park St., West Hartford, Conn.
 5×7 and under, developing paper, of types, landscapes, and figure studies; for foreign views and interior, and figure studies. Class 1.

3011—Levi French, Oakdale, Cal.
 Post cards, of rural scenes and general views in California and North Dakota; for similar views or anything of general interest. Class 1.

384

3330—Walter A. Maahs, Echo, Minn.

$3\frac{1}{4} \times 4\frac{1}{4}$, developing paper, of general land and water scenes in Southwestern Minnesota; for Yellowstone National Park and Western U. S. scenery views. Unmounted prints only. Class 1.

3353X—H. F. E. Johnston, Box 170, Warsaw, Mo.

Post cards, of river, bluff, buildings, street scenes, and general scenery; for anything of interest. Will answer all. Class 1.

CHANGES OF ADDRESS.

2285X—C. A. Holman, care S. Oberg, Madrone, Cal.

(Was Cooks, Wash.)

2690—Bartlett Johnston, Mansfield, Wash.

(Was Wenatchee, Wash.)

2758—U. P. Stewart, Box 912, Winona Lake, Ind.

(Was Westport, Ind.)

2839—J. H. Chinnery, General Delivery, Portland, Ore.

(Was Florence, Ore.)

3023—S. H. Wood, Peru, Neb.

(Was Beaver City, Neb.)

3066—C. K. Ferris, Inverness, Fla.

(Was Waldo, Fla.)

3102—P. Austen, Route 5, Meridian, Miss.

(Was Bonita, Miss.)

3125—Cecil G. Park, Alden, Mich.

(Was Trenary, Mich.)

3153—John Timmons, Houston, Texas.

(Was Stamford, Texas.)

3252—John A. Higgins, care Miss Y. Laforce, 12 Plessis St., Quebec, Canada.

(Was St. Louis, Mo.)

3342—Warren W. Williamson, 331 E. 13th St., Davenport, Iowa.

(Was Winona, Minn.)

WITHDRAWALS.

3075—W. H. Stannard, Bureau of Standard, Washington, D. C.

Withdrawing temporarily, when again ready to exchange will publish new exchange notice.

3257X—Mrs. L. P. Stanton, Ebano, S. L. P., Mexico.

Impossible to exchange until further notice; have left Mexico and unsettled at present.

“Lenses of Quality”

This is the title of the new catalogue of lenses manufactured by G. Rodenstock, of Munich, and issued by Kreps & Stelling, Augusta, Georgia. This catalogue should be sent for at once, as it is a book that every recipient will carefully preserve on account of the large amount of really valuable information which it contains. There are chapters on: General Properties of Lenses, Perspective, Plan of Photographic Drawing, Focus, Depth of Field and Depth of Focus, Speed or Ratio Aperture, Field, Chromatic Aberration, Spherical and Zonal Aberration, Astigmatism, Distortion, Choosing the Correct Focal Length, and a valuable Table of Reduction. This valuable matter occupies fully one-half of the book. In addition there is a wealth of beautiful illustrations and a complete description of the Rodenstock line. Write and get your copy—it is free—before the supply becomes exhausted, or you will regret it.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Joseph Thompson, of Gatlif & Thompson, Eureka, is somewhat of a hunter as well as photographer. Anything from deer to doves.

Guy Hess reports very busy times. (He married recently.)

H. H. Wonacott, of Willits, has just moved into his own building. It is a great improvement on his old place.

Mr. Freeman, of the Freeman Art Co., Eureka, has just returned from Panama with a fine lot of negatives. He expects to make the trip again in January.

E. H. Kemp, of this city, was also a recent visitor to Panama.

E. F. Smith has opened up a new stock house at 5632 Pasadena Avenue, Los Angeles.

Bushnell Studio at Sacramento was robbed on the night of June twenty-fifth, a complete view outfit, valued at one hundred and fifty dollars, being taken.

Harold McCurry of the McCurry Foto Company, Sacramento, recently toured the State with the Good Roads Commission, Mr. McCurry being the official photographer thereof.

W. E. Cutberth of Portland has a well equipped branch studio in Sacramento and expects to invade San Francisco with another branch in the near future.

"Teddy" Muller is now in full swing with the new branch of the Defender Photo Supply Company in this City.

Walter Schulz is now with Burr McIntosh, finding himself quite busy with the latter's photographic activities.

Chas. Anderson, formerly with the Elite Studio, is now head operator for Haussler of this city.

A. S. Houghton is now with the Mitchell Studio.

All the House studios have been doing a nice business during the first quarter of the year.

J. T. Bertrand, Pacific Coast Representative of the Cramer Dry Plate Company,

is again showing his smiling face about San Francisco, having returned from an extended trip through the Northwest.

Some Effective Advertising

We have been favored with a copy of the booklet being sent out to dealers, showing the advertising being done by the Bausch & Lomb Optical Company, of Rochester, New York. These advertisements, as our readers know, are very attractive, being made doubly so by the interesting photographs used therein. This series, in addition to being used in all the leading photographic magazines, has been run regularly in some of the better magazines of general circulation. While we have most serious doubts as to the value of advertising such high-class specialized goods in magazines of general circulation, we must admit that the style of the advertising compares favorably with that of the oldest and most experienced users of general circulation magazines. It seems almost obvious that the advertiser who wishes to interest but one class, photographers, must pay for a large circulation that reaches those not interested at all therein; and furthermore, the photographers so reached are not as favorably impressed as they would be by seeing the advertisement in a photographic magazine that had their respect and esteem. It is also logical to assume that the manufacturer of an article that can interest practically every reader of a general circulation publication, say the advertiser of a toilet soap or breakfast food, must be able to make a small fortune through such advertising, and make it in a short period, if such advertising is profitable to the manufacturer who can hope to interest but a portion of the readers. If advertising to a certain class is profitable in general circulation publications, it is clear that all one need do is to find some article that will appeal to all classes, advertise it well, and enormous profit is assured.

CAMERA CRAFT

The Sunless South

The sunny South is succeeded at this time of the year by *sunless* South, if one goes far enough to find it. The British Antarctic Expedition under Captain Scott is enduring the rigors of the polar winter in a region where for six months the sun is hardly seen. The official photographer to the expedition, Mr. H. G. Ponting, has secured many excellent studies of life and scenery in the Antarctic. His report concerning his chemical equipment addressed to Messrs. Burroughs Wellcome & Co., was sent from Ross Island and reads as follows:

"I think you may be pleased to hear that the 'Tabloid' Photographic Materials which you supplied to the Expedition have given every possible satisfaction. It has been a pleasure to work with chemicals put up in such an eminently practical and convenient form. Especially I would commend to the notice of all travellers and explorers as well as to all amateur photographers, your 'Rytol.' It gives fine brilliant negatives, and seems to be equally suitable for plates, prints or slides. All our developing work here is being done with it. Already some hundred dozens or more have been developed with it, as well as thousands of feet of cinematograph film. I am deriving as much satisfaction from its use now as on the day I first tried it, and have never had a better developer."

Captain Scott added to the report—"I fully concur."

Photo Products Company's Papers in the West

The Johnson Drug Company of Spokane, Washington, have recently put in a complete stock of Platora and Instanto developing paper and postal cards. This progressive concern has built up an extensive business in their photographic department, and doubtless their many customers, as well as other photographers in their territory will be glad to learn of this addition to their already extensive line. The excellent quality of these papers is now generally acknowledged, and they are rapidly making new friends among the profession, due to their merits and attractive prices. Any professional photographer who has not taken advantage of the liberal of-

fer of the manufacturer, The Photo Products Company of Chicago, to send for free samples should do so. You surely haven't a chance to lose. The larger share of the business of this company is done direct with the photographer; "By Return Express" being their slogan.

Victor Flash Powder

The photographer, be he amateur or photographer, is standing in his own light, in a double sense, if he fails to investigate the merits of Victor powder. It costs a trifle more than some others appear to do because it is full weight, but in actinic quality it scores so strongly that it really becomes a very low priced product. The worker who is too often confronted with results that are hard and contrasty, due to insufficient light, should give the Victor Flash Powder a trial. Flashlight work takes on a new charm; it becomes satisfactory and remunerative; it is made certain and successful, when a good powder is used. Many workers do not hesitate to pay a high price for an anastigmat lens because of its increased speed over an ordinary instrument, but they will unthinkingly use a flash powder that makes good results difficult, while a good powder costs no more, simply a small sum spent for enough to investigate its quality. Victor powder can be obtained from all dealers. It is manufactured by James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, Illinois.

Some Fine Backgrounds

Too late for our last issue came the new design book, number thirty, of backgrounds and accessories offered the progressive professional by the Seavey Company, 8 South Dearborn Street, Chicago. We would advise all our professional friends to send at once for a copy.

Sepaline Tablets

We have just given a new preparation known as "Sepaline Tablets," a careful trial. These tablets are prepared according to a new formula in which the objectionable features of the old sulphiding bath are eliminated, chief among which is of course the disagreeable odor which is produced by the ordinary sulphur bath. This new preparation is practically odorless and the tones produced are equal to those obtained with the regular Sepaline, the popular re-develop-

ing agent marketed by the same firm. Sepaline in tablet form meets an inevitable demand, and the convenience, cleanliness, simplicity and economy of this form will win for it the lasting approval of the amateurs of the country. Black and white prints can be toned with Sepaline tablets in two or three minutes, and when we consider the time necessary by the hyp-alum process, the convenience of these tablets is evident. A package contains twenty-four pairs of tablets and is sufficient to tone about three hundred 4x5 prints. The retail price is thirty-five cents per package. They are obtainable from all dealers or direct from the manufacturers, Burke & James, Inc., 240-258 East Ontario Street, Chicago, Illinois.

Otto Goerz Bargain List

We have just received a copy of the latest bargain list of cameras and lenses issued by Mr. Goerz and would advise any of our readers who are interested in bargains in high grade goods to send for a copy. Mr. Goerz sends out these lists with a mark to show just which articles are already sold, thus avoiding much unnecessary correspondence and delay, not to mention disappointment. Write for a copy of this list, addressing, Otto Goerz, 501 Fifth Avenue, New York.

Marine Gardens Are Photographed

After many unsuccessful attempts to utilize the camera in photographing objects beneath the water, a perfect reproduction of the famous marine gardens off the coast of Avalon, Santa Catalina, has been made by S. S. Hutchinson of the American Film Company. Mr. Hutchinson in making the films disregarded the usual theories of photography and selected a day when the sun was low to accomplish the feat. The camera used was of the kind used for making ordinary moving pictures, with several magnifying lenses. It was pointed at the ocean's bed, and as the boat passed slowly over the famous gardens a clear film, fifty feet in length, was obtained. The marvelous rock formation of the gardens and the numberless varieties of fish were clearly reproduced. An octopus is shown clearly in the picture. The films are to be exhibited in the schools of the Pacific Coast—*Chicago Examiner*.

"Practical Dry-Fly Fishing"

"Practical Dry-Fly Fishing," by Emlyn M. Gill, to be published this month by the Scribners, is the first American book describing this most artistic and fascinating method of angling for trout, though the dry-fly has been the favorite lure of English anglers for many years. The author demonstrates the perfect adaptability of the dry-fly to American streams, and offers to American fishermen new angling pleasures, as well as an effective means of taking trout under conditions where the wet-fly would probably fail. It gives advice about rods, lines, leaders, flies and other tackle necessary for the successful pursuit of this sport. All the rules of the game are given from the purchase of the rod to the first cast on the stream; and the reader is shown clearly, step by step, and in sequence, everything needed to enable him to go upon the streams alone, and by practice become an expert dry-fly angler. There are many conditions under which a wet-fly fisherman will find the dry-fly very useful to him, even if he does not become such an enthusiast as to use the floating lure to the exclusion of all other kinds of fishing. Dry-fly fishing affords a scientific method of taking "educated" trout from much-fished streams. It is founded upon the exact imitation of nature. The flies are imitations of living insects upon which trout feed, in form, size and color, and are presented to the fish exactly as live insects are presented. Charles Scribner's Sons, 153-157 Fifth Avenue, New York.

Wall Colors and Light

A South Dakota reader, Charles W. Baker, sends the following valuable item clipped from *Harper's Weekly*:

"In painting or papering the walls of a room, the question often arises, what color reflects the most and what the least light? Experiments in Germany gave the following results: Dark blue reflects six and one-half per cent of the light falling on it, dark green, about ten per cent; pale red, a little more than ten per cent; dark yellow twenty per cent; pale blue, thirty per cent; pale yellow, forty per cent; pale green, forty-six and one-half per cent; pale orange nearly fifty-five per cent; pale white seventy per cent. Glossiness and brownish tints increase the amount of light reflected.

CAMERA CRAFT

The Illinois College of Photography

The National Good Roads bill for an ocean to ocean highway has passed Congress, and the route will follow the old National Road passing through Effingham, from New York City to Los Angeles.

We received pleasant visits last month from Miss Tillie B. King, student of 1905; W. F. Gauss of 1907 and N. Hausman of 1910.

Miss Myrno Moss of Calumet, Michigan, has returned to finish her course in photography after a two-months' absence. We were also pleased to greet Walter Dunlap, who has been spending the holidays at his home in New Hampshire.

Mrs. Inez Ritchie, official photographer for the State of Illinois Engineering Department, enrolled last month for a special course in photography.

The June graduating class at the College was a notable one in two respects; first, for its grace and beauty, and again, for its highly artistic temperament. It was composed of the six following ladies: Miss Myrno Moss, Miss Nonie Rhodes, Miss Virginia Forwood, Miss Rose Wiesender, Mrs. Ada Latshaw and Mrs. Madeline Gavin. We predict a future for this constellation that will make the original Florodora Sextette, or any other sextette, look like a vulgar fraction.

Professor John Gums has just returned from the Methodist Episcopal State Convention of Sunday-schools, held at Elgin. Professor Gums was a delegate from this county.

Jose Santiago Castillo, who finished a course in photo-engraving last month, will make a tour of Europe during the coming year, after which he will engage in the photo-engraving business in some South American city.

Mr. and Mrs. Clarence I. Brown, who finished the photographic course in May, will take up special work at the Chicago Art Institute for about six months, after which they will open a modern studio in some Western city. Their display of graduation work at the college was the largest and finest set of samples that has been exhibited for a long time.

Otho L. Smith, student of 1909, spent a couple of weeks in review work at the College last month. Since leaving, he has been specializing on commercial photography.

Frank Champion, student of 1906, who last summer sold his studio at Long Beach, California, and took up the profession of aviator, was instantly killed at Seattle last month, by a fall in his machine.

The College Camera Club held a reception and exhibition at their rooms last week. F. Kunishige was host for the evening and gave the guests a splendid example of Japanese hospitality. The prizes were won by Miss Rhoads, Miss Moss, Mr. Lyons and Mr. Kugler.

Photographers' Association of Missouri

The Photographic Association of Missouri have arranged for their 1912 Convention, to be held in the Convention Hall of the Planters' Hotel in St. Louis, September second to fifth, inclusive. In selecting this, they have one of the most exquisite quarters in the country. The entire parlor floor and the two large halls, one for manufacturers, dealers and display purposes and the other for meeting room, besides five or six committee rooms, being entirely reserved for the dates of their convention.

It is their desire to have an exhibition of foreign pictures, as well as pictures from every association and State in the Union. They hope to make this convention of interest, not only to the Missouri photographers, but to all fellow craftsmen.

The program arranged is entirely different from that of previous years. There will be interesting illustrated lectures and a quartet composed of Papa Cramer, Papa Hammer, Daddy Lively and Harry Fell. A few of the selections to be rendered are: "Should Auld Acquaintance Be Forgot" and "Back in '61."

Any photographer wishing further information or program can have same by addressing Lee Kucker, Secretary, Springfield, Missouri.

New Reflecting Camera

The attention of our readers is called to the advertisement of the new Mirorgraph camera on another page. A roll film camera with a lens working at f-6 at the price quoted is certainly worth investigating, and their offer to send a catalogue should bring them a large number of inquiries therefor. Write them for a copy, addressing Mirorgraph Camera Company, Indianapolis, Indiana.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

There is psychology in photography, and it also has its "Cykology," the principal medium of which is CYKO—the sensitive recorder of that indefinable something in every artistic negative. —*Fra Monte.*

Good negatives may be divided into three classes: soft, normal and "contrasty."

The result depends on the paper used for printing.

Any of these good negatives, if printed on the wrong paper, will produce poor prints, and all will yield beautiful prints on the right grade of

Cyko Paper

Cyko is made in three grades of tone gradation for amateur printing, corresponding inversely to the class of negatives for which each grade is intended.

Contrast (Blue Label) For weak and soft negatives.

Normal (Yellow Label) For normal negatives of even gradation.

Soft (Red Label) For contrasty negatives.

Send for Cyko Manual, the key to prize-winning pictures.

AnSCO Company, Binghamton, N. Y.



FRANZ KOHLER, VIOLINIST
By R. L. SLEETH, JR.

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

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Photographing Colored Objects

By H. E. Blackburn



I was greatly interested in an article that appeared in the *British Journal of Photography* some time ago, covering the use of ordinary dry plates for the photographing of colored objects, after first bathing the plates in a dye solution, varying the dye according to the results desired in translating the colors of the object into monochrome. About the same time the necessity of some knowledge on the subject was brought to my attention quite forcibly by the experience of a friend who had taken a typewritten letter to an engraving firm of no small reputation, asking that a line cut be made from it. He was advised that he would have to have the letter rewritten on white paper, as the yellow paper on which it was then written would photograph dark. At the cost of having the heading set up and printed on a few sheets of white paper, and the letter rewritten and sent away for the signature, he again applied for a line cut. The letter was still unsuited because the typewriting was in purple ink, which would photograph too light. A new letter was prepared, using a black ribbon for the typewriting, and a good line cut resulted. All such, and similar troubles, could be avoided by a little practical knowledge on the subject. Equipped with such knowledge, any photographer should have been able to have easily made a good black-and-white print of the original letter. I made a number of experiments along the line suggested in the article in the English magazine, having many of the dyes on hand from some former work in three color carbon and other processes, and give the results below.

Extra rapid dry plates were placed in the dye baths in absolute darkness and allowed to remain for five minutes, then removed, allowed to drain, and finally placed in a tin box containing well-dried calcium chloride to take up the

CAMERA CRAFT

moisture. The cover of the box was sealed on, the plates left therein for four hours, and then loaded into holders or plate boxes ready for use. It is well known that all color-sensitive plates contain bromide of silver that is more sensitive to blue rays, and a yellow filter is usually employed to compensate for this over-sensitiveness to the blue. But the use of a yellow filter tends to give much more contrast, as a rule; and, on small cameras having a fixed focus, they cannot be used at all. Dyeing the plate with a yellow dye makes it yellow-green sensitive in itself, and the results are not so contrasty as when used with a yellow filter. It consequently excels in orthochromatic effect. To prepare a plate that will photograph yellow and light green as light as blue, orange as dark as light blue, and red of a light shade, doing it without any ray filter, use a dye bath as follows:

Erythrosine Filter Yellow.....	1 gramme
Water	120 c. c.'s
Wood alcohol	60 c. c.'s

While this plate falsifies the red to a considerable extent, it is quite a valuable one for general work. Red is not desired as dark as in nature in any landscape, and in general work it is rarely satisfactory in monochrome, owing to its brilliancy in nature. This would be an excellent plate with which to photograph a young lady under a red parasol in a field of yellow daisies.

To photograph light red as light as blue, without a filter, dye the plate in:

Pinorthol solution	6 c. c.'s
Water	80 c. c.'s
Wood alcohol	40 c. c.'s

For photographing red poppies, pansies, violets, or sweet peas, plates dyed in the above will give, alone, a far better average rendition of the colors in monochrome than when used with a yellow filter to hold back the blue. The Pinorthol solution can be made up as a stock solution, but must be kept in the dark. It is composed as follows:

Pinorthol	3.5 grammes
Water	15 c. c.'s
Wood alcohol	50 c. c.'s

To render a plate sensitive to all colors and suitable to various needs when used with the proper filters as described below, use the following bath:

Pinachrome	1 gramme
Water	500 c. c.'s
Wood alcohol	500 c. c.'s

This must be kept in the dark. To use, dilute one part of the above solution with fifty parts of water. The Pinachrome solution can be purchased already prepared, but this last must be used as one part in a thousand parts of dilute alcohol.

The filters to be used with plates bathed as last above are made by taking unexposed plates,—lantern slide plates by preference on account of the thin glass used,—fixing them out clean, washing well, and then staining them in the requisite color as described below, soaking until the gelatine film will take up

PHOTOGRAPHING COLORED OBJECTS



SQUAW HILL ON THE DENVER & RIO GRANDE RAILROAD

By HARRY SHIPLER

no more of the color. Rinse, dry, and then bind two together, face to face, with lantern slide binding. They are best used in a grooved slide back of the lens.

The dye for the blue filter is made as follows:

Filter Blue	1	gramme
Hot water	180	c. c.'s
Acetic acid	12	drops

When cool, filter. This filter will photograph yellow as dark and blue as light, using the last-described bathed plates.

For a green filter, use:

Filter Blue-Green	1	gramme
Rapid Filter Yellow.....	1	gramme
Cold water	100	c. c.'s

Filter before use. This will give red as dark and green as light, using the plate in question, as before.

The red filter, one giving good results with Sead's or Cramer's panchromatic emulsions, is made thus:

Rose Bengal	3	gramme
Filter Red, No. 1.....	1	gramme
Hot water	150	c. c.'s

When cool, filter, and use with either of the plates mentioned or with the dyed plate as given last above. This red filter will photograph green as dark and red quite light.

To make clear the use of these filters, a little explanation may assist. If the blue filter is placed back of the lens in the path of the rays of light forming the image on the panchromatic or pinachrome bathed plate, all the rays will pass except those of the complementary color, yellow. The negative, when

CAMERA CRAFT

developed, will have a good deposit in the red and blue parts, but the yellows, or any colors containing yellow, will be represented by a more or less weak deposit, according to the amount of yellow present in the object. A pure yellow appearing as clear glass, while orange or green will be correspondingly opaque, as they contain red and blue respectively. A print from the negative will show yellow as dark, the blues and reds quite light, according to their strength and purity. The red filter acts likewise, except that it transmits red and yellow, absorbing its complementary color, blue. With the green filter, green, blue and yellow are allowed to pass, while the red is absorbed.

These filters can be used to good advantage in photographing sunsets, or in photographing subjects containing colors that are to be cut out or avoided. Using them, and the dyed plates, the worker who has but occasional need of such help is assured an easy and certain method of achieving desired results without the annoyance and delay involved in securing special plates of the desired size and sensitiveness, and he is also assured, at all times, of having fresh, clean working emulsions, of a constant quality. The dyes mentioned are the products of Lucius & Bruning, of Germany, and can be obtained of Victor Koechl & Company, 122 Hudson Street, New York.

I would add, just as an example of the applicability of these filters and dyed plates, a note as to the proper treatment of the example cited in the first paragraph of this article. A letter in blue or purple typewriting on yellow paper should have been photographed through an orange screen, using a plate that had been dyed in Eyrthrosine bath first given. The screen would have rendered the yellow very light, with the blue or purple as dark, in the finished print. The orange filter, I forgot to say, is made by using a dye made up of sixteen grains of Naphthol Orange to the ounce of water. This same filter would be applicable for a portrait of a person having blue eyes and yellow freckles. The Irish flag, made up as it is of green and yellow, would require the same. The owner of the flag might object to the use of the orange filter, but it would be advisable from a photographic point of view.



How One "Home Portraitist" Works

By R. L. Sleeth, Jr.



With Illustrations by the Author

Months ago I jokingly answered the Editor's published query: "How do you run your studio?" with a note reading:

"My dear Clute:

"I see you are offering air brushes and such for the best article answering the question: "How do you run your studio?" Enclosed find a printed card telling the whole story. Send on the brush right away. I am in a hurry.

"Yours, etc.,

"R. L. SLEETH, JR."

And that is where I got myself into trouble. I have had no peace since. Today comes a letter asking how I get the business; a week ago there was another asking what I did with the different kinds of current. Before that was a demand for a rough sketch of the arrangement used for supporting the lamp. Finally I am asked to set it all down, even to the details covering my use, or non-use, of the door mat as I enter the houses of my customers.

To start with, all my forebears were, and all my contemporary relatives are, mechanics and metallurgists, therefore my studio is not a studio, but a workshop. My reception room is about ten feet square and contains two desks and a like number of chairs. There are about a dozen framed photographs on the walls, and I keep three portfolios within easy reach. In one of these are



AS EVENING APPROACHES

CAMERA CRAFT

pictures of men, in another are women and children, and the third contains home portraits. The operating room adjoins and is a good-sized office room with three front windows. The dark-room comes next; is larger than the office and almost as large as the operating room. I use it for both developing and enlarging. For light, I have a full-sized window, fitted with three sashes sliding in grooves and equipped with counterweights, hanging outside the frame, making them slide easily. These are glazed with two ruby and one orange panes. A box containing a thirty-two candlepower incandescent light is used for developing at night. There is a good, generous ventilator, with the light trapped, through the window, and it is always open, making the air as pure in my dark-room as in any other in the building. On top of the dark-room is another room used for storing stock. There is still the printing room, a room somewhat smaller than the operating room. Here I have a large printing table with a battery of five four-foot Cooper-Hewitt tubes, with reflectors above them, over and about sixteen inches above its surface. The windows of the room are used only for ventilation and such light as is needed for working. All my printing is done on platinum with the Cooper-Hewitt lights. When the first print is made from a negative, the correct time is marked on the edge of the film; after that a boy turns out as good prints as I could make, by simply keeping his eyes on a watch. Paper is changed and frames are loaded in the nearest corner, partitioned off for the purpose.



BLOWING THE BUBBLE

In the operating room I use a combination of the Cooper-Hewitt light and that coming from one or two of the windows. The lamp is the same that I use for enlarging and for making home portraits. I have a second lamp fitted for alternating current, 110 volts, as alternating current is often found in the residence districts. When I find, as I sometimes do in the outlying boroughs and towns, alternating current of 220 voltage, I switch in a transformer. I carry one lamp and the transformer when going out to make negatives. For this purpose an automobile is necessary; and one must be somewhat of an electrician to handle the lamp, and be a mechanician to be able to

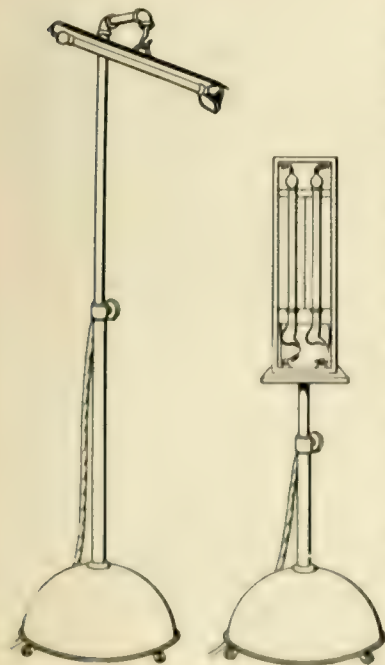
HOW ONE "HOME PORTRAITIST" WORKS

tinker with the automobile, as well as a photographer. The wages of a chauffeur would make quite a hole in the profits from the business. An automobile is absolutely necessary because one has a number of packages totaling somewhere about seventy-five pounds; and some of them, particularly the two containing the lamp and transformer, must be carefully packed and handled. At first my lamp would short circuit occasionally and blow out the fuses at the houses. I carried fuse wire and re-wired the switchboards when this happened until I learned that by always carrying the lamp in a vertical position with the bulb downward it would not short circuit.

My equipment consists of a 5x7, reversible back, Graflex camera. For 8x10 and 11x14



THE PRACTICE HOUR



portraits I make enlarged negatives. For the alternating-current lamp I have a stand made with a hemispherical base, fitted with casters. The base is hollow and contains the coils, thus keeping the weight close to the floor, insuring stability. The upright and arm are made of gas pipe, and in two sections for convenience in carrying. The end of the arm is fitted with a hook on which the lamp is hung. The direct-current lamp has a like base, but the upright standard is telescopic and fitted with a small stand at the top, turning on a swivel. On this is placed the box containing the two-tube lamp. The illustrations herewith show the construction of these stands quite clearly.

This is all rather expensive, I will admit. But when one comes to figure its cost against the outlay made necessary in fitting up and maintaining an elaborate suite of rooms in a fashionable shopping district, it does not look so bad. With the expensively furnished rooms and the

high rental, the photographer can do little more than sit down and wait for the work. With the money put into an outfit such as I use, there are required only the proper efforts on the part of the photographers and business will result. I explained that my reception room contained two desks, one of them my own. The other is used by an advertising specialist, who designs and produces catalogues, booklets, and other advertising matter. He supplies the pictures, be they cartoons, caricatures, straight portraits, or whatever is wanted for advertising purposes. His customers are manufacturers and business men, and such a man looks upon a regular studio as a place catering to women and



THE FAIRY TALE

children, much as do the tea rooms in the large department stores. As he never thinks of going there for his lunch, he is never inclined to seek the studio. My business-like office and a few good pictures on the wall, together with the entire absence of any attempt at elaboration, give me a great deal of work from this class of patrons. The door is lettered with only my name and the word "Photographer." The portraits pleasing them, they become interested in the home portrait work; the average business man, having a deep love for his home, will value such pictures far above the ordinary studio production. The idea also appeals to him as being more direct and business-like. That brings me more work at their homes. I do not have a woman sitter at my place of business much oftener than once a month. They do sometimes find their way to me, and then I make the picture as much like a home portrait as possible.

Still another advantage lies in the fact that I get the portrait work of this advertising man, and that makes my work familiar to some of these men who never get to our office. And, being located in an office building, the tenants of which are all strictly reliable and in businesses that make them and their location widely known, my advertising has added value. If a lady broaches the subject of some home portrait work to her husband, she mentions my name and address. This recalls to his mind perhaps the fact that I made good pictures for his firm or some firm he knows; and he is sure in any case to associate the name of the building with other straightforward business concerns that are also tenants.

HOW ONE "HOME PORTRAITIST" WORKS



A HOME PORTRAIT GROUPING



THE PLAYMATES POSE FOR THEIR PICTURE

CAMERA CRAFT

I do some advertising in the daily papers, using a simple card, one inch deep, like the one shown herewith. This brings inquiries and business; but the most successful means of getting before possible customers lies in the putting out of the portfolios I use for the purpose. I check off, from time to time, a number of names and addresses of possible customers for my home portrait work. The city "Blue Book" is useless; containing, as it does, chiefly the names of "four-flushers" and some who are only three-flushers. Then I have my receptionist leave two or three of these portfolios, each at a different house, to be called for the next day. These contain samples of my home portrait work with a card similar to the one herewith. Nothing else is included, no prices are mentioned, and no effort made to sell anything or secure appointments. The next day the young woman calls and gets the portfolios, puts in new cards, and leaves them at other houses. If an inquiry comes by phone or through the mails, and it is from a party who has not been favored with a portfolio, one is promptly sent and any desired information given.

Send for Folios containing Samples
of Portraiture Made at Home

R. L. SLEETH, JR.

804 Home Trust Bldg. Telephone 546 Grant

Telephone, 546 Grant

R. L. Sleeth, Jr.

Home Portraitist

804 Home Trust Building, Wood Street at Sixth Avenue

THE High Class Photographer no longer asks you to come to his Studio and sit in front of a painted background under a big skylight. He drives up to the front door of your home in an automobile at your own appointed time. He carries a Cooper-Hewitt Mercury Vapor Lamp into your house and makes your portrait amidst your every day surroundings. He sends you finished pictures for your approval and in a reasonable time delivers those ordered at your home. He bills your purchase just as any other business man does, and he does not mar the beauty of your pictures by printing or writing his advertisement on them.

The Mercury Vapor Light is an Electric, not a Flash Light.

I make platinum prints exclusively, making large negatives for large work. For home portraits I charge twenty-five dollars for the first dozen, 5x7 size, and one dollar each for duplicates. For 8x10 size I charge thirty-five dollars for the first dozen and one dollar and fifty cents for duplicates. When only one print is wanted, I charge ten dollars for the trip and making the negative, adding

AN UPRIGHT ENLARGING APPARATUS

the duplicate price for the print. I always make several negatives and submit only finished pictures for approval. These last, if retained, are counted on the order.

Unfortunately, or perhaps fortunately, I am a very poor salesman, so I leave that kind of work to my receptionist, who generally succeeds in landing the order and getting the money. I believe that this is the best way, even should one be a salesman himself. There is a sort of inconsistency suggested when one who poses as an artistic worker turns his hand to the business part. The man who sells milady her fine gown does not tailor it with his own hands. The jeweler does not cut and mount the gems he sells. As I have said, I advertise in the daily and weekly papers, send out literature from time to time in an effort to keep in touch with my former



ARTHUR HARTMANN, VIOLINIST

patrons, use the folios I have mentioned, and from time to time I think up new methods of publicity and try them out. I can tell you how to go about the work, but as to persuading the dear people to part with their hard-earned or inherited coin in exchange for photographs, that, as friend Rudyard would say, is another story, and every man will have to decide for himself as to the methods to be used. One price to all, throughout, I believe is important. Many a man has gone on the rocks by trying to size up what a customer will pay and basing his prices thereon.

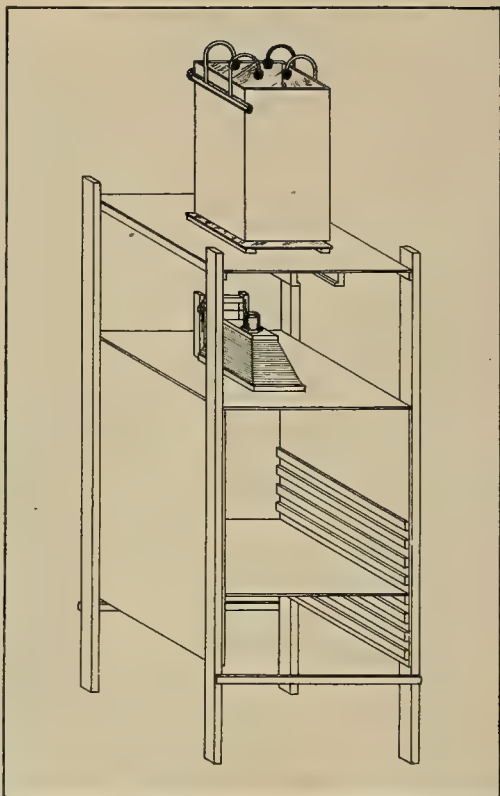
An Upright Enlarging Apparatus

By Carl Thayer

The illustration herewith shows an enlarging apparatus which I have used for some time with the best of satisfaction. It requires but little room, is easy to use, and it possesses advantages over several forms of enlarging contrivances which I have used in the past, and from which this was evolved by small stages of improvements. The illustration makes it so clear that very little description

CAMERA CRAFT

is required. Commencing at the top, there is a box 10x12x18 inches, open at both ends and lined inside with four pieces of mirror. The illumination is secured from four inverted gas burners, piped as shown. The bottom of this box rests on two strips that permit an air space between it and the piece of ground glass below, to prevent breakage of the latter by heat. Underneath the platform on which this box rests there are fastened two rabbeted strips, forming a slide in which the negative is inserted. The shelf below is about fifteen inches lower and contains a hole over which the camera is placed, the back of the latter fitting into a rim made by nailing four strips around the edge of this hole. The next or lower shelf is movable and can be inserted in any of the different grooves to make enlargements of different sizes. The stand is about thirty inches square and it is about thirty inches from the bottom of the camera



THE FIELDS IN WINTER
402

By CARL THAYER

AN UPRIGHT ENLARGING APPARATUS



HEAVY DRIFTED SNOW

BY CARL THAYER

to the lower pair of grooves. The side of the stand as well as the back is solid, while the front is left open and fitted with two curtains separating in the center as shown in the drawing. I used this apparatus for making enlargements from my $3\frac{1}{4} \times 5\frac{1}{2}$ negatives, and using a lens of seven inches focus, I secure enlargements of any desired size up to twenty-four inches. I put my bromide paper in a large printing frame which has a cover on the front so that I can place the bromide paper in it in the dark room and carry it to the enlarging box without danger of fog. I find this way of working very convenient, because it does away with the difficulty of pinning up the paper and adjusting the image thereon. Using this upright enlarging outfit, everything lies flat and both negatives and paper can be adjusted in the most simple manner.

Preventing Friction Marks

By David H. L. Wills



My method of preventing friction and abrasion marks on glossy developing paper is as follows: I purchased at my dealer's two glass-stoppered, three-ounce, dropping bottles. In one I placed a one to three solution of potassium bromide, using one ounce of bromide to three ounces of water, and labeled it "Potassium Solution." In the other bottle I placed a solution of iodide of potassium of the same strength, using one ounce of the iodide to three of water, labeling it "Iodide Solution." I next prepared my developer as follows:

Water	32	ounces
Metol	30	grains
Edinol	30	grains
Sodium sulphite, anhydrous	2	ounces
Hydrochinone	120	grains
Sodium carbonate, anhydrous	1½	ounces
Potassium bromide	8	grains

I used this developer diluted with an equal amount of water. For example, wanting twenty ounces of developer: I take of the stock solution ten ounces and add ten ounces of water; to this developer I added one drop of my iodide solution to each and every ounce, or twenty drops. Then I added two drops of my bromide to each ounce, forty drops in all. In using this developer it is very important to have the prints timed correctly. If I have an undertimed print and try to force it, neither this nor any other developer will entirely prevent abrasion marks. But if my prints are timed correctly and developed for the proper time, about one minute, I do not have the slightest trace of abrasion or friction marks.

I have used this developer for Glossy Cyko, Glossy Azo, and Glossy Velox, and found it to work well on all of them. But let me add, this developer has a tendency to make the paper more sensitive to the light, so that I must use a little care in developing my prints to see that the direct rays of the light do not strike the paper and produce fog. Between development and the fixing bath I use a short-stop, one ounce of acetic acid No. 8 in thirty-two ounces of water. Prints are rinsed in this short-stop bath a second or two, then placed in regular acid fixing bath and kept in motion for the first second or two, then being allowed to fix fifteen minutes. One will notice, on first immersing prints in the fixing bath, that it has a yellow or canary color. This should not cause alarm, because it all leaves the print when fixation has proceeded its proper length of time. If one will use this developer as advised, he will never have abrasion or friction marks on his glossy developing papers.

Flowers and Still Life

By F. Belmont Odell



With Illustrations by the Author

Photographing flowers is like—well, it isn't like anything else. Nothing quite so fascinating; few, if any, photographic subjects so difficult to do justice by in the matter of rendering their natural grace and texture. The amateur who does not naturally like flowers should not attempt to photograph them: aside from the mere production of the pictures, the worker should get some degree of pleasure from seeing and handling the flowers themselves. Being in sympathy with one's subject helps wonderfully in posing and arranging.

Granted that arrangement, modeling and textural quality are the three major essentials to successful flower photography, we will consider means of obtaining them. Logically, arrangement comes first, and telling one how to arrange a cluster of blossoms into pleasing and harmonious composition is like telling him what not to do rather than what to do. In this regard, the most a writer may hope to do is to offer general suggestions; the knack must be acquired by practice and the cultivation of the instinct. Some of the things he should do, however, are: Keep close to nature in composition, making simple, natural groupings instead of complicated masses of blooms; and, leave out vases and other retainers until a cultivated sense of the artistic use of accessories be



Wild Carrot

Old Time

Chrysanthemum

CAMERA CRAFT

acquired. The "don'ts" of floral photography embrace the art of exclusion. Some of them are: Don't include flowers of different colors in the same picture, "colors" being here used in the sense of relative actinic value; and don't form squares, diamonds, or triangles, nor allow principal lines to run parallel with the side of the ground glass. The worker should carefully examine the ground glass for the general effect. Is it spotty or bunchy? Do the lines and highlights or the spaces between them form ellipses, rectangles or parallelograms? Is there duplication of spaces or repetition of lines? If so, depend upon it, the resultant picture will be tiresome, regardless of how "pretty" it looks on the focusing screen.

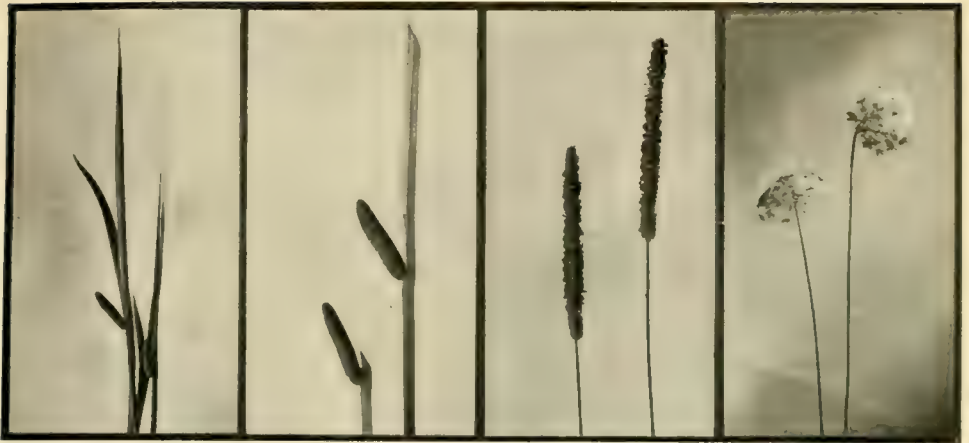
Modeling is obtained by correct lighting. A small table should be drawn up near a window and the subject so placed upon it that it will be lighted from above and a little in front of one side at an angle of approximately forty-five degrees. If the subject is at a right angle from the lower corner of the window, and as far distant from the glass as the window's width, with the lower sash blocked with cardboard or black cloth, the arrangement should give good results. Holding the blocking material up at the bottom of the window and gradually raising it and noting the effect on the subject, is the best guide as to its correct position. When the desired height is reached, or that giving the best lighting, the cloth should be secured to the casing with push pins.

A reflector should be so placed that it will catch the main light and carry it around to the front and shadow side of the subject. It will not accomplish this if placed parallel with the window. Its proper position may easily be determined by holding it directly facing the window, the subject between the two, then slowly moving it toward the front while watching the reflected light on the flowers. A little observation in this direction will teach the worker more



My Flower Studio—showing arrangement

FLOWERS AND STILL LIFE



Marsh Flag

Seed Pods

Timothy Heads

Wild Carrot

in five minutes than he can learn from much diligent reading, if indeed he could learn it at all by the latter process.

A small assortment of backgrounds of different shades is convenient. Large sheets of cardboard can be purchased for a few cents at the stationer's. It comes in a variety of colors and shades. Three of these sheets fastened together at the edges by cutting holes and tying with strong cord in such a manner that they will stand up, screen fashion, in any position, or can be folded to bring any side out. Three shades, white, black, and gray, should be sufficient for the various colors of flowers. The background should be evenly illuminated, as shadows falling upon it spoil the effect.

Having our window and background arranged, our subject and reflector in place, the next step is to determine what exposure to be given. Some efficient workers have attained almost superhuman instinct in the matter of judging



Hazel Nuts

White Peonies

Golden Rod

CAMERA CRAFT

exposure for any given light; but personally I prefer to employ a scientific method, since it is possible to ascertain the exposure accurately, by quick and simple means. I have found the method advocated by F. M. Steadman entirely satisfactory. By his system I have made exposures varying in duration from one second to twenty-five minutes, often under most trying conditions, and have yet to find one instance of error chargeable to the system.

No amount of precaution in lighting and exposure will offset lack of intelligent development. There is one way to make soft, well-graduated negatives, the kind that print luscious blacks and detailed whites, and that is slow development. Use your favorite developer, but dilute it. For tray development, wherever the formula calls for four ounces of water, use at least five.

The use of extremely small stops destroys atmosphere and gives a pinched, wiry appearance. Focus with the largest opening, then stop down until the lens covers all the planes occupied by the subject. It is rarely advisable to use a stop smaller than $f-22$.

A tripod is a nuisance in close range flower work, as it has a most persistent habit of sprawling just when one wants it to remain rigid. An inverted starch box, with a hole cut through the bottom to admit the tripod screw, makes a practical camera support; the focusing being done by sliding the box to and fro on the table. A small reading glass assists in close examination of the image on the ground glass and is a great help in fine focusing.

To work with ease, one should have a room separated from the regular living rooms and situated on the north side of the house. Doors and windows should be closed to avoid draughts, and walking overhead or in adjacent rooms during exposures should be discouraged, as it causes vibration, which, while imperceptible, will spoil a plate. The temperature of the room should be cool and the day bright; the former to retain freshness of the flowers, the latter to reduce the length of the exposure and thus avoid wilting while the shutter is open. Photographing cut flowers on a dull day requiring several seconds' exposure, the delicate petals are apt to droop in a sickly sag, all of which is faithfully recorded in your negative.

The kingdom of flowers offers rich opportunities for the development of artistic photography. The mere desire on the part of the worker to catch and preserve their natural loveliness is an infallible indication of nobleness of character, we were going to say a credential of honor; for no one who is fond of flowers and children can be an undesirable citizen. The blossom is nature's way of fecundation, the symbol of perpetuity of plant life. Their subtle perfume greets us at birth, their lavish beauty cheers in sickness, they go with us to the altar and at the last are the final tribute bestowed by loving friends.





WILD LAUREL BLOSSOMS

By F. BELMONT ODELL

Making a Difficult Interior

By F. H. Doyle



With Illustrations by the Author

The first photograph herewith shows the local display room of the National Cash Register Company. The room is one that, owing to its peculiar shape and size, cannot be photographed in the ordinary way, to show all that is wanted, even with a wide-angle lens. Some idea of the difficulty of the situation may be gained from the information that the side of the pillar at the right, the side that is in front in the picture, really faces the wall shown at the left, just as would a like object in an outdoor panorama; and like it, this picture embracing nearly one-half of a complete circle.

The picture was made in three sections, prints from the three 8x10 negatives being shown below. The first of the three, the extreme right, having to be made almost against the light from the front windows, was a flashlight, using a No. 2 Dagor lens with stop U. S. 32, the same lens and stop being used for all three. The second negative, the center of the view, was a time exposure of

CAMERA CRAFT



NATIONAL CASH REGISTER COMPANY'S SHOW ROOMS, SAN FRANCISCO

seven seconds, and the third a slow bulb exposure. The camera was used on a tripod eight feet high, one with a large top and quite rigid. The tripod remained stationary during the making of the three exposures. On the large head of the tripod was placed a piece of white cardboard with a hole in its center for the screw to pass through.

After centering the portion shown in the first negative, a pencil line was drawn on this cardboard along the side of the camera bed. The camera was then swung around on the loosened focusing screw until the center of the view was arranged taking in one-half inch of the view selected for the first negative. This gave, in addition to part of the first view, the entire length of the display counter with the two figures. Another line was drawn on the card and the centering for the third exposure was followed by the drawing of a third line on the white card. By following this system of guide lines, it was only necessary to start at the first, make the exposure, change the holder, swing the camera to the next mark, and so on, without having to again consult the ground-



PRINT FROM NEGATIVE NO. 3

MAKING A DIFFICULT INTERIOR

glass focusing screen. The three reproductions are in reverse order to their taking to the better explain their arrangement.

The room is of a very peculiar shape, its outline being somewhat between that of a figure seven and a letter Y, with the narrow extension at the rear forming the stem of the Y; this stem being neither parallel with nor at right angles to any other walls in the room. This, combined with the extreme width of the front, made it impossible to photograph it in its entirety without making a panoram; and the great variation in lighting made a panoram camera, with its uniform timing, out of the question. But, gone about as described, there was not as much intricate work involved as one might suppose. It simply required that the usual care be taken in focusing and timing to get three as perfect negatives as possible; the rest was easy.

Owing to the great difference in timing the three negatives, it is evident that to try to print them according to the old method, with a panoram printing frame, vignetting the edges together, would not be advisable. The method following, which was employed, will be found a more simple and practical one. First, a perfect print was made from each negative, uniform in depth and tone. Next, laying each print in turn, properly located on its next neighbor, on a piece of glass, so that the cut edge of the top one would later fit against the cut edge of its neighbor, the first was cut along the line of the mezzanine floor and then along the line of the glass partition, as shown by the white line in the cut. The second was cut along gas fixture, following along the ceiling line of beam, then down, following outline of figure at left, and zigzag across the floor. The third was cut down the edge of beam in ceiling to the pillar, across its top, and down the left. These three trimmed prints were mounted, care being taken to



PRINT FROM NEGATIVE NO. 2



PRINT FROM NEGATIVE NO. 1

bring the edges as close together as possible, were given some air-brush work to fill up an open place to the left of the chandelier and smooth up the ceiling and floor, and the whole copied on a new negative. This negative, after a little retouching with pencil and knife to remove all traces of lines, made perfect prints, prints with which the customer was highly pleased. I might add that I have no set price for this kind of work, doing it on a memorandum that reads: "Charge three dollars per hour while working thereon." Such work is usually done for the advertising men who are appreciative of good results. My results usually please, and I have yet to find one who objected to the size of the bills. A great many of these difficult interiors have been made as described and therefore I can assure the reader it is an entirely practical method.

John Henry Essays Photography

By Francis John Dyer



"If you must have the pictures," said Berenice, "and if you cannot get them in any other way, I suppose you'll have to go and take them."

Then the little lady gave a sigh, deep and portentous, and continued:

"Of course, I just know something will happen. The lion is likely to break out of his cage when he sees you, or the crocodile may get excited at the idea of being photographed, or—or something."

I protested that my reputation had hardly reached the Zoo yet.

"I am not at all sure of that," responded Berenice. "If those animals had heard of it, they would not be docile enough to submit to the dangers of your camera. They might think you a certain celebrated African hunter. For my part, I would rather take my chances with an unloaded pistol than with that camera at the Zoo."

That certainly was unkind. Had I done anything to deserve it? I must bluff it out, that seemed evident.

"If it's an invitation you're fishing for," I remarked, sort of casual like, "why, I should be simply dee-lighted to have you accompany me. You could attract the attention of the wild animals, and perhaps they would keep still and look pleasant while being 'taken.'"

A small feminine nose went up into the air. A strained little feminine voice said, with a pout:

"If I went at all, it would be only as a special favor. I can't imagine, anyway, why that editor wanted you to write a story on the 'Ethical Influences of Civilization on Wild Beasts' and illustrate it with photographs from life. If you were a newspaperman, or even a magazine writer, it would be different; but you are just a scientist, and what does a scientist know—"

"About ethics?"

JOHN HENRY ESSAYS PHOTOGRAPHY

"About writing articles," very bitingly, "for the press?"

"Oh, well, that being settled, we shall go out together," I said with an air of abstraction.

"John Henry! What being settled? I never saw such a provoking man. And what are you going to do about a camera?"

"Well, I know a nice man who has a sort of a camera shop. You can buy films there, and after you have 'snapped' them all, you can take them back and he will 'develop' them. If they do not come out, you can buy more and try again. It's good for trade."

"Stupid! Cut out that flippant talk. It is not one bit funny. I only wish it were, for then you might write funny stuff like—like—"

"Hm, could you get ready inside of an hour and go down town to the photographic supply house?"

"In an hour? Of course; in five minutes."

So Berenice and I found ourselves, some time that same day, in the shop where they sell cameras and other things to take photos with.

"I would like," said I, trying to look unconcerned and sophisticated, "to see some cameras; something in half calf or morocco with, er—"

Berenice poked me in the short ribs. That sort of thing is likely to interrupt one's train of thought. She was about to speak and put the dealer on the right track when he turned to his shelves and took down several cameras.

"Now here," said he, "is a late, improved camera with chromatic, astigmatized, compensating, convoluted lens, with an automatic pulsating shutter, which can be regulated to the one one-millionth part of a second. The adjustment is of German design and is protected with patents. This forty-page pamphlet describes it more fully. The finish is Russian leather, as you can tell by the odor," and he sniffed at it in apparent delight. I felt somewhat faint, but managed to ask the price.

"This camera can be sold for one hundred and forty-nine dollars," he remarked, "because we got a special consignment of a carload of them. Otherwise they would be one hundred and fifty three dollars and forty-five cents."

"I am sure I saw a cute little camera at the Boston store last summer," said Berenice, "for four ninety-nine. Have you any like that?"

I was so mortified that I leaned heavily on the showcase—I was that weak. I felt greatly pained when my elbow went right through the glass. I am sure that the glass was broken already, but on the whole I fancy I was lucky that I did not cut myself. Laughing a hollow laugh to conceal my chagrin, I held my arm over the hole. The dealer, with much presence of mind and delicacy, pretended he saw nothing. He simply handed down a bullseye camera

"This, madam," he remarked, "is five dollars."

Berenice looked as if she thought she was being swindled. I am satisfied she weighed the Boston store camera at four ninety-nine in her mind against the one in her hand at five dollars. She picked daintily at the pegamoid cover and even sniffed at it surreptitiously, pretending she was lost in thought the while. Then she laid it down gingerly on the showcase. I was looking at a dream of a camera at ninety-five dollars, and another at one hundred and ten dollars."

CAMERA CRAFT

"Oh, by the way," I hazarded, as if a bright thought had struck me, "before I buy one, couldn't you let me take one of these cameras out and try it? I would take good care of it, you can tell me how to use it, and we can see how the pictures come out."

The dealer did not seem to be overjoyed at the suggestion, but he said he would do it. I picked out the one hundred and fifty-dollar camera and suggested that all that remained to do was to get some instructions and load the thing with films.

"It's very simple," remarked the camera man. "You open the box like this, and put in the films this way. Then you expose the first film like this," and he went on telling me all about it.

I confess that when he was done I was pretty much mixed up.

"How do you manage that?" I asked.

"Why, this way," and he showed me again. "Then when you are ready, just press the bulb like this—pshaw, I exposed that plate. Well, that is spoiled, but there are eleven more. When you have used a plate like that, you pull out the sheet of paper marked Number 2, this way, and the next one is ready for a picture."

"That is for instantaneous work, of course," I said; "but if it is to be in a house, or if the day is cloudy—"

"Then, in that case, you set this pointer over to this place, and close the shutter by moving this indicator, and then press the bulb for about a quarter of a second like this,—oh, pickles! I've exposed that plate, too."

"Well, I think those will be about all the interiors I shall need," said I with considerable dignity. I flatter myself I can exhibit withering dignity on occasion.

"How much are these films?" I added. "I may as well pay for them now."

"Oh, yes," said the dealer; "those are one dollar and fifty cents. You had better take another along to be sure you have enough."

"Very well," said I, still with dignity. Then I drew out my pocket book and took out a five-dollar bill.

"We usually require a deposit on cameras," said the man.

Berenice turned pale and clutched me by the arm. "That spot will be black and blue," I mused.

"How much do you require on this?" I asked, showing, I fancied, no trace of nervousness.

"Well, say seventy-five dollars."

If I was staggered, I am sure I did not show it. It happened that I had drawn my weekly pay that morning and had the money in my pocket. I took out seventy-five dollars and handed it over.

"Make me out a receipt," I requested.

"Miss Simpkins, please make the gentleman out a receipt for seventy-five dollars' deposit on camera," said the dealer in a matter-of-fact tone.

"Yes, sir," said the bookkeeperess. "What was the name, please?"

"IS the name," I corrected; "Sammerton is the name."

"Yes, sir; do you spell it with a C or an S?"

JOHN HENRY ESSAYS PHOTOGRAPHY

I told her.

"What did you say the initials were?"

I told her "John Henry."

Would you believe it? That feminine person looked amused. Now what is there in my name to be amused over? John Henry Sammerton. It's been a good enough name for me for—well, no matter how many years. I am no woman to be wanting to change my name every little while. And my wife, who is more concerned than any other person save only and always me, has never found fault with my name. I finally got the receipt and we started right then and there for the Zoo.

"Don't you think the light is getting bad?" asked Mrs. Sammerton. "You know, toward dusk the actinic rays get more numerous, or they get fewer, or something; and then you get poorer pictures unless you give the films a time exposure."

"It is not three o'clock yet, and I think there is an abundance of light," I replied.

That settled it for the time. While we were waiting, Mrs. S. saw a friend of her youth on the corner. They rushed together and embraced, giving an imitation of a stage kiss on each other's cheek.

"Oh, Berenice! Oh, Mabel! How are you, and where have you been, and how are all the folks? and this is my husband," etc.

Isn't it funny how glad women always are to see each other? Car after car went by while they were running over the events of the past few years, and then they found that they were living right around the corner from each other. And who would have thought it? Berenice discovered that Mabel had one of those four-dollar-and-ninety-nine-cent cameras in her hand, and she was just taking it home with a fresh film in it, and she wished she didn't have it, because she wanted to make a call, and why couldn't Berenice take it along and take a few snaps while I was making my more careful photos? So Berenice said she would.

We did get to the Zoo at last. I can't tell of our experiences with the animals, for lack of time. Besides, I cannot think of it even now without getting so annoyed that it is not pleasant. Just as I had the lion focused nicely and was about to press the bulb, he turned around, flicked his tail through the bars, hitting me in the eye, and I didn't get him on the plate at all.

"There, I snapped him twice," announced Berenice, "but I am afraid the light shining in his face that way was too strong to make a good picture."

"Just one moment," said I, holding my temper admirably. "I wish to take him from the other side."

I placed my tripod at a favorable point near where the king of beasts was lying down, and after assuring myself that the camera was level, and perpendicular, and that the focus was all right, and that the conditions generally were quite favorable, I pressed the bulb. But just then a dog dashed around the corner of the lion's cage and bumped into me. My hand closed on the bulb again as the lion turned his head.

"It's millions to molecules," said I, "that I have a picture of a two-headed lion. But I can spare no more time for any one animal."

CAMERA CRAFT

Affecting a cheerful spirit (what villains of deceit we get to be!), I said gaily:

"And now for the buffalo paddock!"

But really this subject is painful. Perhaps it will be sufficient to say that I snapped every film I had, enjoying (?) many adventures which would sound more funny to another person than they seemed to me, and then we took a car back home. The next day the cameras were returned to the camera man, who agreed to develop the films and print one proof from each exposure that was good enough to warrant it. On the first set of films I had the two-headed lion, as I had expected, and to my surprise the first film developed also. It showed the bars of the cage and the lion's tail, probably taken just after the king of beasts had hit me in the eye with it. Of course the picture was no good to me at all. But I paid for it anyway. The next film showed just a black smudge, like a picture of a total eclipse. The rest of that roll of films were much like this one. On several of the second set there was evidence that the shutter had been snapped twice. I never could account for those double exposures. Unless I was very much mistaken, one exposure was taken at a fire, and the other was taken in a shop with goods on the shelves and signs all about. And not one of the other films had anything on them that I could by any possibility make out. I was studying them intently when Berenice opened her envelope, and I was startled out of my morose reverie by her exclamation.

"Oh, Pet; just look here!"

There was a curious note of satisfaction in her voice. I wondered if that fiendish camera artist had imposed on her by substituting some real pictures for the blanks she undoubtedly drew in that ridiculous little camera. But I went to where she stood by the window and looked at her prints. 'Pon my word, I nearly turned faint, for there stared at me a fine picture of that impudent old lion; and the second one she took of him was just as good. And she had the buffalo, and the crocodile, and the hairy muskox, and the okapi, and—

"Why, there's a blank," exclaimed she. "I'm going to take this right back to that man. How dare he develop one like this?"

"But, my dear—"

"John Henry," and a little foot stamped on the polished floor; "if you will let yourself be swindled, I shall not. Go right down to that man this instant and take this spoiled film back, and make him give my money back."

And I did just as she told me to do.



STEREOSCOPIC DEPARTMENT

First Aid to Stereo Mounting

By Dr. Ava H. Fenn, I. P. A. 1672

16 Colony St., Meriden, Conn.



It is assumed in the first place that the primary principles of stereo-photography are understood and that the prints are properly trimmed. The beginner is sure to mislay his ruler or his pencil or tape and to spend time hunting for them. They are essentials and time wasters in mounting prints correctly. It is said that time is money, and so anything that saves time in stereo-mounting is a "money in the bank" proposition. This "first aid to stereo-mounting" is a little device that, at a total cost of less than one cent and the time that would be taken in mounting a few prints, will turn stereo-mounting from dreary drudgery into agreeable art. Also, it obviates the necessity of pencil, tape or rule and disagreeable pencil marks on the mounts. Briefly, it is an infallible stereo-mounting gauge.

To make this, cut a piece of thin, well-calendered paper about one and one-half inches wider than the mount used and the length of the mount plus its



HAPPY DAYS



BY F. MORRIS STEADMAN

CAMERA CRAFT

thickness; and in this connection, let me observe that it is a good plan to use only the standard $3\frac{1}{2} \times 7$ size mount. Make sure that measurements are correct, that edges are straight and that corners are square. Paste or glue five-eighths inch along both top and bottom.

It will now barely be possible to lay the mount on the paper without touching the adhesive. Fold the paper, bringing the ends together, and then place under a weight while drying in order to make gauge keep proper shape. When the adhesive has set, there will be a pocket, or holder, that will cover, or



hold, exactly one-half of the mount. Into it the mount should set easily, and the mount when in the holder will be divided exactly in the middle with a perpendicular line. This holder is somewhat awkward to remove without pinching the mount, and so a handle is made in the following manner: Take a strip of paper four inches long and cover one side with adhesive. Fold over, enclosing about an inch of the closed end of the gauge and leaving a portion projecting. With this as a handle, the gauge may be pulled off as easily as it is put on.

To use this gauge, insert mount and, taking print, place print with mounting tissue snug up to edge of gauge. With this print mounted, change gauge to other side and repeat process. If gauge passes by center of mount, there will be some separation between the elements. If mounting tissue is not used, the adhesive is likely to stick to the gauge, but this may be avoided by covering gauge near the edge with paraffine. It will be a good plan to give the gauge a color which contrasts strongly with both print and mount in order to assist the vision in accurate adjustment of prints on the mount.



A GOOD SUGGESTION FOR NIGHT PHOTOGRAPHY
418

By H. D'ARCY POWER, M. D.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

INEXPENSIVE LARGE TRAYS: Obtain from the hardware store black sheetiron bake pans, costing from twenty to fifty cents. Clean off all grease with a cloth dipped in gasoline. Paint all over with Probus or asphaltum paint. When dry, give the inside a second coat.—F. L. D., California.

PROFESSIONAL HINTS: A rolling pin such as mother used in making pies answers admirably as a print roller. A coarse sponge makes a fine paste brush, as it cannot shed hairs. Diamond dyes make a good substitute for water colors for tinting photographs. A fine opaque is made by mixing red ocher and gum arabic and boiling for fifteen minutes.—Ross B. Main, California.

THOSE NEW-FANGLED PORTRAITS: I have a method which is too good to keep; it enables one to produce those new-fangled portraits which one sees reproduced so frequently in photographic publications. It is as follows: Make a pretty, flatly lighted negative; drain, then sprinkle some coarse sand over it and varnish. It is then ready for printing.—Erwin Baer, Arizona.

AN EVEN TEMPERATURE: To keep the temperature even in a small developing tank, I set the tank in a large pail or tub of water of the desired temperature. Even with the atmosphere several degrees higher or lower, the change will be but slight in the twenty or thirty minutes generally required for development, owing to the larger body of water of the correct temperature surrounding the tank.—Blacar, Maine.

REDUCER STAINS: Some of our periodicals publish a selective reducer, as follows: Permanganate of potash, five grains; sulphuric acid, thirty drops; water, ten to fifteen ounces, depending on rapidity of action desired. This stains the film badly, and various remedies have been suggested to clear the negatives. I have found the acid alum fixing bath, as used for developing paper, to clear these stains from either plates or paper very quickly.—Charles Rowles, Minnesota.

AN IMPROVISED TRIPOD: This is the way I rigged up a tripod recently, happening to be out in the woods without one. I cut three small branches from a nearby tree, trimmed off most of the twigs, set them up Indian tent pole

CAMERA CRAFT

fashion and tied them, where they crossed each other, with a piece of string. A bit of wire, some long pieces of grass, or even one's handkerchief, will do the trick as well. Then I planted the carrying case in the small forked top and put the camera on the case. I gave my picture a time exposure, getting it the way I wanted.—A. K. Born, Illinois.

RED BROMIDE PRINTS: A good formula for toning bromide prints red is as follows:

Water	10 ounces
Citrate of potassium	1 ounce
Copper sulphate	55 grains
Ferricyanide of potassium	545 grains

The toning proceeds from warm black to chocolate, then to warm red and then on to deeper reds.—H. G. Heinsohn, Texas.

UNMOUNTING PHOTOGRAPHS: If for any reason it is desired to unmount a photograph, cut a piece of blotter exact size of print, soak in water, drain or lightly squeeze off the surplus so it will not drip, place this accurately on print; put under light pressure—just enough to make good contact, and in about an hour the print can be peeled off. If more than one are to be taken from their mounts, another can be placed face down on the first blotter, thus making one piece of blotter and one operation answer for two pictures. If carefully done, neither print nor mount will be injured.—Charles Rowles, Minnesota.

MAILING PRINTS: To send prints safely by mail, I would suggest that two of the ordinary gas mantle boxes, with their ends removed, can be easily made into an excellent mailing tube. One has only to paste a piece of strong manilla paper around them, being sure to get the ends squarely together. Then slipping a cover on one and pasting it, leaving the cover on the other end so it can be slipped on or off, the tube is ready for use. A piece of writing paper can be pasted on for the address. Two of the boxes make a tube eight inches long; three boxes, one twelve inches long.—Edward D. Davison, New York.

DODGING: A large proportion of our photographs can be greatly improved by dodging. For the purpose I prefer a piece of matt celluloid instead of tissue paper. Its grained surface will hold a large amount of yellow ochre, or lead, and it can also be made translucent with a little vaseline or 3-in-1 oil, giving one great power in the way of holding back locally. Spurr's Mezzo Plate is the same thing and can sometimes be obtained where the matt celluloid cannot be secured. After use the sheet can be washed and dried in a few moments ready for another negative. By tacking strips of cardboard to the sides of the printing frame, placing the tacks on the outer and leaving the inner edges loose, the celluloid plate can be slid in and out, dispensing with the bother of paste, glue, etc., that must be used with tissue papers.—Charles Rowles, Minnesota.

A WRINKLE IN TITLING NEGATIVES: This may be an old dodge to some, but as I have never seen it in print, I will air it. Whatever title may be desired is lettered, with Chinese white, upon a slip of smooth black paper.

PARAGRAPHS PHOTOGRAPHIC

If this slip be placed carefully in the desired position on the wet negative, after the latter has drained and looks smooth, rubbed carefully into good contact, left a few moments and then removed, the lettering will appear in reverse, in white, on the negative film. As Chinese white is nearly opaque, the title may or may not be sufficiently dense, if not, it can easily be followed over with a fine pen, using Higgins' or other waterproof ink, after the negative is dry. This method, accidentally discovered, simplified the making of letters in reverse, as the copy left by the Chinese white, being easily seen against the black of the negative, is very easy to follow; lettering or printing in reverse without some sort of guide being not so easy as it looks. —L. R. Godden, California.

FILLING BOTTLES OR FILTERING SOLUTIONS: The cut herewith illustrates a little device that I find very useful and convenient in either filling bottles or filtering solutions. One has simply to place the bottle or other receptacle under the funnel and "let her run"; and, if a piece of absorbent cotton is placed in the base of the funnel, it will catch and retain all sediment. The value of such a convenience lies in the encouragement it gives one to filter his solutions more than he otherwise would do; and no one can deny the advantage of keeping solutions well filtered. The stand shown has a base of ten inches and is twelve inches high, but of course can be made any size that will best suit the convenience of the individual worker.—F. W. P., California, I. P. A. 3100.



REMOVING DRYING MARKS: We are sometimes told that there is no cure for this trouble, once the drying marks have been caused by uneven drying of the negative. However, I have sometimes been able to remove them by giving the negative a long soaking in water and then drying in a cool place where there is a good circulation of air. Another experiment works successfully in some cases, and that is by rehalogenizing the negative, washing well and then re-developing in an ordinary alkali developer. The bleaching is done with a solution made up as follows:

Potassium bromide	30	grains
Potassium bromide	15	grains
Water	3	ounces
Nitric acid	7½	minims

After bleaching in the above, wash well and then develop to the desired depth with any good developer.—L. A. Fenton, Indiana.

CLEANING OLD NEGATIVES: In the July number, under "Paragraphs Photographic," H. P. Westaby tells us "How to Clean Old Negatives." In this item, Mr. Westaby refers to the cleaning of old negatives by using lye. This

CAMERA CRAFT

is a strong alkali, and of course must be handled very carefully or one's hands will likely be affected by it. A method which I have used and found very rapid and at the same time harmless, is as follows:

I place the old negatives in the rack used in tank development, and immerse them in a tin pail or deep sauce pan, fill the vessel with boiling water and allow the rack full of negatives to remain therein about ten minutes. Continuous boiling of the water after the plates are immersed will produce even quicker results. I then remove them from the water, and, one by one, scrape the old film or gelatine from the glass with a wide putty knife. The film peels off as if it were a coating of soap or other soft substance, and by wiping off the glass with a rag dipped in hot water, the plates are thoroughly cleaned in a very few minutes and without the use of any substance deleterious to the hands. Possibly this method is in use by others, but I have found it so convenient and simple that I wish to pass it along.—D. L. Billings, Kentucky.

PROTECTING THE PAPER: The average worker exposes his gaslight prints or post cards either by admitting daylight to the dark-room or by turning on an electric light. In either case he finds it bothersome to make sure each time that the unexposed and the undeveloped sheets are safe from the light used for printing. The few sheets of unexposed paper or cards should be safe from the light and yet readily accessible; much more so than the original package in which this material comes. In my own practice, I find a 5x7 plate holder just the thing. I place a dozen or two cards in one side of the holder, and then when one is required I draw the slide about half way out, remove the card and return the slide. If a dozen prints are made before developing, I use another holder or the reverse side of the same one, as a container until ready to develop. Placing the exposed sheets between the leaves of a book until wanted for development is another good plan. A shallow box with a sliding cover may also be used for the unexposed cards.—Walter Jack, Ohio.

A GASLESS, OILLESS RUBY LAMP: I am sending a clipping from the *Star Monthly* of April, 1905, a contribution to that magazine from Frank M. Blackwell. I have never had an opportunity of giving it a trial, but feel sure it will interest some reader. It reads: "Take an ordinary cigar box, a large one, and make an opening in one side about 2x4 inches. Fit over this a piece of ruby paper, being careful to also make the box lightproof. Take a four-ounce bottle of the clearest glass to be had; clean it, and place in it a piece of phosphorous about the size of a pea; pour on some olive oil which has been heated to the boiling point, filling the bottle about one-third full, and then cork it tightly. This serves as the light. To use, remove the cork, allow air to enter the bottle, then recork, place inside the cigar box, and close the door. The empty space in the bottle will become luminous, the light being equal to that of a lamp. When the light grows dim, remove the cork and let a fresh supply of air enter the bottle. In winter it will sometimes become necessary to heat the bottle, by holding it between the hands, to increase the fluidity of the oil. This apparatus may be used for six months, when the contents of the bottle should be renewed."—Mrs. Lois E. Gundelach, Oregon.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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No. 9

The Ninth American Salon

Entries for the Ninth American Salon must reach Toledo, Ohio, according to the conditions forming a part of the prospectus just to hand, not later than October first. This makes the time rather short, the time between the date on which this reaches the eyes of our readers and the date on which pictures should be started. It gives our readers no time in which to send for a copy of the prospectus and entry blanks, and practically no time in which to prepare pictures for the purpose. All they can do is simply to get together what they may happen to have on hand and send it along without an accompanying blank. We have a letter from the secretary, C. C. Taylor, expressing a strong desire on the part of the officers to see the West particularly well represented, but these officers seem to overlook the fact that the average worker requires at least a couple of weeks in which to get a few pictures ready for a salon. It would seem that it could be quite easily arranged to have the closing date for receiving entries announced months in advance, and it might even be possible, as long as the salon is established as a yearly event, to have the closing date for entries made the same each year. This would make it possible for those who wished to submit pictures to anticipate and prepare for the date.

However, we believe any worker will be perfectly safe in sending prints either direct to the American Federation of Photographic Societies, care Museum of Art, Toledo, Ohio; or, if here on the Coast, direct to this office for us to forward, which last we are glad to do without cost to the sender. Pictures from west of Denver can be sent unframed. On the back of each picture should be placed the title and the maker's name and address.

The National Convention at Philadelphia

The Convention of the Photographers' Association of America, which closed at Philadelphia on Saturday, July twenty seventh, was no doubt the most memorable one ever held in the history of the Association. The display of pictures formed an exhibition that strongly justified the action of the officers in having a jury make the selections. The work of preparing for the delegates had all been done well in advance, President Larrimer and his colleagues, Townsend, Towles, Tyree and Dozier, being busy with the actual details of the hall a full week in advance of the opening date. Consequently, everything was ready and business proceeded rapidly from the opening hour. Nearly fifteen hundred delegates registered, not including the members of the Woman's Federation

and the various employees and attendants. Over a thousand took the trip to Atlantic City on the special trains, and five hundred more found their way there in autos and on trolleys. The attendance was no doubt the largest in the history of the Association; the display of pictures was remarkably effective and instructive, while the officers earned the fullest praise for their efficient management of every detail, particularly in the line of entertainment. The officers elected for the ensuing year are as follows: Charles F. Townsend, President; Manly Tyree, First Vice-President; Will H. Towles, Second Vice-President; L. A. Dozier, Treasurer, and Homer F. Hayden, Secretary. Kansas City was selected as the meeting place for the 1913 Convention. The Woman's Federation elected officers, as did also the Commercial Photographers' Federation. The Fourth Congress of Photography had several enthusiastic sessions, and the new organization, the National Dealers' Association, adopted a constitution and made C. A. Huesgen, of New York, President. The Philadelphia Convention was a success in every way, everyone in attendance was more than satisfied, and a standard was established that future conventions will have a hard time in maintaining.

Mr. Steadman's Articles

We have received from Mr. Steadman a series of articles covering the eight details of practice mentioned at the close of his contribution to the pages of our May number. The first of this series of articles will appear in our next or October issue, and the others will follow in regular order. They will prove most interesting and instructive, we feel quite sure, and we trust that our readers will oblige both Mr. Steadman and ourselves by coming forward with any questions or discussions that may enable the author to clear up any points not easily understandable or readily acceptable. Two or three readers of Mr. Steadman's earlier articles have pointed out the fact that his occasional reference to his little book and his exposure scale makes his articles appear as if written for the purpose of increasing the sales of these two publications. A little thought will entirely dispel this impression. Mr. Steadman has repeatedly explained his method in full in our pages, and the series of articles that will begin next month will also make the entire method clear. Mr. Steadman does not need or desire to derive income from the sale of either the little book or the exposure scale, and the small profit therefrom is more than consumed by the advertising done. Mr. Steadman refers to the book occasionally, only to the end that those having a copy may be apprised of the connection. If in reading any particular article of his, one will eliminate the mention of the book he will find that the article is still quite complete; his occasional mention of the book in no way indicating that the book is needed to make it understandable.



A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Spots and Pinholes in Negatives

For the benefit of the inexperienced worker, it may be explained that those tiny clear spots which we so often see on looking through a negative are usually called "pinholes." We generally notice them first in the sky part, when by force of light and shade contrast they show up as clear spots against a dense background—like stars against a winter sky. But it is a mistake to think they only occur on the sky part. A little careful examination will show that they are just as liable to occur at any other part, while naturally, if the surrounding parts happen to be very thin—as in the shadow details—the pinhole spot is barely noticeable in the negative, and its effect usually all but negligibly in the print.

If we are making contact prints on anything except a smooth, or nearly smooth, surface, and the pinholes in the negative are of the usual size, it is quite likely that their effect will not be noticed by any except the extremely critical; but if the negative is being used for enlarging—or what comes to the same thing, viz., making lantern slides which will be seen as enlarged screen pictures, these tiny pinholes when so enlarged are likely to be all too noticeable. Therefore our aim will be either to prevent or cure them, and preferably the former when possible.

To prevent a thing happening, one should know what causes it, and the conditions of existence. In general, but not in every case, these pinholes are caused by minute particles of opaque solid matter, i. e., "dust specks," settling and adhering to the sensitive film. Each such tiny particle acts as a light shield, and so prevents light during the exposure reaching that particular part of the plate coating. So that when the developer is applied, this light-shielded region does not darken by development, and the fixing bath dissolves out this bit of creamy silver salt, leaving us, not clear glass, as many suppose,

but a coating of clear gelatine on the glass, which for all practical purposes we may regard as quite transparent.

Prevention, therefore, means removing all dust particles from the film before exposure, and keeping them off until after the exposure. Now dust is omnipresent, not forgetting the inside of the camera. Therefore the first step is to dust out the inside of the camera, using a small stiffish brush to get well into the corners. (What can be better than a worn-out shaving brush, with its hairs trimmed down to about three-fourths to one inch in length?) But brushing out is not enough. This stirs up the dust. We have to remove it first by a dry duster and then a bit of rag just suspiciously sticky with glycerine. Take a few drops of glycerine, add an equal quantity of water, mix these thoroughly, and rub one end of the rag in this mixture. If the inside of the camera is slowly and quietly wiped out with this sticky rag, it will lick up the dust in a very satisfactory way.

Next we must see about removing dust particles from the plate before it goes into the plate-holder. Naturally one first thinks of dusting its surface with a broad, soft camel's-hair (one and a half or two inches wide) varnish brush. This acts very well, provided that the brush itself is quite clean and free from dust and dirt, otherwise it may add more dirt than it takes away. If you elect to use a dusting brush, note the following points. The brush must be quite clean and quite dry, kept in a card box lined with smooth writing paper, and used for this purpose only. Hold the plate horizontal by its opposite edges, and, with the film side downwards, sweep the surface slowly, otherwise you will electrify it and make it attract dust particles. Unless you can be quite sure about the cleanness of your brush, it is better to employ the following plan. A second plan is to hold the plate by its opposite edges, so that it is in a vertical plane. Then give it two or three light, sharp taps on the

CAMERA CRAFT

dark-room table, so as to dislodge any dust particles.

A third plan is to use a black velvet plate duster, i. e., a bit of cotton (not silk) velvet folded into a pad about three inches wide. This, like the brush, is slowly and lightly passed over the plate surface while it faces downwards.

A further precaution is to dust the plate surface by any one of the three above-named methods that you elect to use after exposure, but just before it goes into the developing dish.

Some workers prefer to sweep the plate with a tuft of cotton-wool wetted with developer as soon as the developer has well covered and wetted the plate. The object, in any case, is to let the developer get into working contact with every part of the plate's surface.

But when all has been said and done in the way above suggested, we shall still find "pinholes" at times. Therefore our next thought is how to get rid of them on the negative.

The larger ones may best be spotted out with a fine-pointed water-color brush. Select one with a good point, but with not very long hairs, i. e., a good but abrupt rather than a taper point, if one may so express it.

Any opaque color may be used, e. g., lamp-black, vermilion, yellow ochre. But it will save subsequent work on the print if we can match the color, as well as density of the surrounding parts. Many pyro-developed negatives have a yellowish or greenish tinge, which can be very closely matched by a mixture of lampblack and a little yellow ochre.

Beginners are apt to use the same quite opaque touch for spots in the high lights (sky) as the shadow detail. The result is that on our resulting print we get white spots among the dark parts of the picture.

Use the brush nearly dry, i. e., with as little water as is conveniently workable. Otherwise the color will run and dry as a dark ring with a clear center. To get even patches and prevent this creeping effect, we should use a little gum arabic dissolved in the water.

I do not advise making up a gum solution, but adopt the following plan. Dip the brush in plain tepid water, and rub it with a twirling motion on a selected bit of clear gum, so as to get a drop of fresh gum water, and then add to this the color. If you by chance happen to be a water-colorist, you are quite

likely to have one of those little porcelain rectangular "pans," as they are called, which has been used up and discarded. Clean this thoroughly with warm water, pick out a few clear glass crystals, crush them to fine powder, put the powder in the pan, and add a few drops of tepid water; stir the mixture with a clean pin, and let it dry into a solid mass. We have now a convenient surface on which to twirl the brush and get fresh gum solution.

But for the very tiny holes the following is a better plan. Take a small needle, e. g., a No. 10, for instance, seize it about its middle with a pair of pliers, and push its eye end into the flat end of a wooden pen-holder, i. e., the wooden stick without its metal pen-nib holding part. By holding the needle firmly and twirling the wooden stick the eye end will slowly penetrate. When the needle is buried about half way, then snap off its pointed end—one-sixteenth to one-eighteenth inch away from the point. Grind this broken end quite flat by holding the needle perpendicularly down upon a stone, e. g., a flat pebble or sharpening stone obtainable at the penny stores. If this flat end is touched in the stopping-out mixture and then applied to the hole, we can get a round dot of very small size easier, quicker and better than by the brush method. This needle end will require wetting and cleaning pretty frequently, as the excess of color is apt to dry round the edges of the flat end and give us a larger dot than is required. It is convenient to have a couple of these needle spotters of large and small size, e. g., the tip of a No. 10 and middle of a No. 6 or 8 needle.

Finally, a word about a Vanguard preparation called Photopake. This is what one might call a "black cream," i. e., a semi-fluid black mixture, which dries quickly. It is a good dodge to put a drop of this, about the size of a grain of wheat, on one's left thumb-nail, and use this as a palette with the needles as just mentioned. This preparation is particularly good for spotting out pinholes in the sky and other dense parts, but may be diluted with a very little water for lighter parts. I should like to add that recently I found among the accumulation of years a bottle of this preparation, which had been lost for quite five years. The contents had dried slightly, but with the addition of a very little water it worked perfectly. Select a pin with a fairly large head. Stick its point into

A PHOTOGRAPHIC DIGEST

a wooden penholder. This makes a very convenient tool for taking up a small portion of photopake out of the bottle, also for taking up a small drop of water.—F. C. Lambert in *Amateur Photography*.

The Rarer Metals in Photography

The following, covering the uses of cobalt, is taken from a paper by F. W. Edwards in *Amateur Photographer*, and the formula for toning from some notes by Harold Wood in *Photography*:

Chemical elements fall in groups, the members of each group bearing more or less resemblance to each other. Cobalt is a member of the "iron" group of elements; and as iron salts are extensively used in photography—and cobalt bears very marked resemblances to iron—it was but natural that experimenters in photographic research work should investigate cobalt and its salts with a view to their practical application in photography.

Cobalt, in the form of chloride, is utilized in a peculiar process which is known as the "photographic barometer," because if the finished print is allowed access to the atmosphere, it is of a pink color in wet weather, blue in dry and fine weather, and of a lilac or lavender color in changeable weather.

These curious changes are due to the cobalt chloride, which is pink by absorption of water when moist, and blue when dry.

The *modus operandi* of the process is as follows: A bromide print (unmounted) is soaked in a five per cent solution of formalin, and, after drying, is brushed over with the following emulsion, used warm:

Gelatine	1 1/4 ounces
Glycerine	1 ounce
Cobalt chloride	10 grains
Water	4 ounces

The print then needs only draining and drying.

The addition of cobalt chloride to printing-out paper emulsions increases contrast.

Several of the cobalt salts have been experimented with in order to base photographic processes on their reduction, but up to the present the only satisfactory process with cobalt compounds is that worked out by Messrs. Lumiere. Gelatinized paper is coated with a saturated solution of cobaltous oxide in oxalic acid solution, and then exposed to light under a negative, the exposure being

considerably less than for printing-out paper prints.

After exposure the prints are immersed in a five per cent solution of potas, ferricyanide, and then washed. The print at this stage is of a pale rose color, but is altered to a dark brown by toning with an alkaline salt, whereas an iron salt tones cobalt prints to a blue color, whilst a nickel salt tones these prints to a red. Just as in certain "iron" processes a negative image can be obtained from a negative, so also with this cobalt process; for, if the untuned cobalt prints be toned with benzidine, toluidene, etc., these organic substances will tone or color the parts of the prints which were not acted on by light, hence giving a negative image of a blue color, which could be turned brown by ammonia, or yellow by hydrochloric acid.

As cobalt forms a ferricyanide and a ferri-cyanide analogous to iron ferro- and ferri-cyanide, attempts have been made to work out "cobalt-prussiate" processes similar to ferroprussiate processes, but with little success.

Were it not that the cobalt salts are, as a whole, fairly stable, there would be photographic processes based on the reduction of such salts of cobalt as the citrate, gallate, sulpho-cyanide, and nitrate, etc., but these salts are not so readily reduced as are the silver salts; but as several cobalt salts form valuable pigments, some of which are of interest in photography, it is fortunate that cobalt salts are chemically fairly stable, otherwise these particular pigments might not be permanent. Arranged in alphabetical order, these pigments are as follows:

Aureolin—Cobalt potassium nitrate.

Azure cobalt—A pale variety of cobalt blue.

Cerulean blue—A stannate of cobalt.

Cobalt blue—A compound of the oxides of aluminum and cobalt.

Cobalt green—A double oxide of zinc and cobalt.

Smalt—Cobalt silicate, obtained by pulverizing blue glass containing cobalt.

Thénard's blue—A pigment obtained by igniting cobalt salts with alumina.

If a dilute solution of cobalt chloride be used as an ink for writing, its faint pink color is practically invisible when dry on paper, but if the writing be heated, it will

CAMERA CRAFT

appear blue. The idea is of no practical utility in photography except that this so-called "sympathetic ink" is based on the same property of cobalt chloride as is the photographic barometer mentioned above.

Cobalt forms numerous complex compounds with ammonia, and of these cobaltamines, as they are called, one or two have been tried for reducing negatives, but with little success.

Despite several attempts at toning with cobalt salts, only one really satisfactory process has been worked out, although the chloride, nitrate, sulphate and other salts of cobalt have been tried. In the method under review, the bromide prints are first bleached in the following bath:

Water	100 parts
Ferricyanide of potassium	6 parts
Lead nitrate	4 parts

A thorough washing must follow bleaching; and then the prints are placed in the following bath:

Water	100 parts
Cobalt chloride	10 parts
Hydrochloric acid	30 parts

The resulting tone is green.

Control in Bromide Printing

Control of his printing process is absolutely essential to the pictorial photographer; and the oil and bromoil processes have scored over bromide, largely because the control in those processes is visible, and can easily be exercised and varied, whereas in bromide work the effect of the control only becomes visible, usually, on development. The possibilities of control in bromide work will be much enhanced if we can devise some method of visible control.

In combination printing on bromide paper, especially when clouds are added, one finds that the developed image varies in tone; and if we tone such a print to a sepia we obtain two distinct tints in it. We can easily remedy this state of affairs by bleaching the print, redeveloping it with any suitable developer, and then again bleaching and placing it in the usual sulphide bath. The result of this series of operations is that one gets one tint right throughout, and it is by working on this method that we can control our prints as we desire.

Taking as a case in point that of a print, "The Top of the Hill," a case in which the trial print was unsatisfactory, since the dis-

tance did not recede as was desired—the clouds were too near. So, to remedy matters, the print was bleached in the ferricyanide and bromide bleaching solution and well washed, the surface moisture blotted off, and the control then commenced.

The foreground was simply developed up with a strong rodinal solution, one in twenty, which was carefully applied with a brush. When development was completed there, the print was again washed, blotted, and a weak developer, one in one hundred and twenty, applied with a brush, just to emphasize one or two bits in the distance, just to start it. Then the whole print was placed in a weak developer and developed just as far as desired, given a rinse and put into the fixing bath. The control was completed.

The strong developer was applied first, because I desired its action to be completed before the action of the weak developer, and also because the tone of the foreground set me the scale of tone for the remainder of the print.

This method is so easy and so delightful (one feels like a painter-artist playing about on the print with a brush) that one promptly wants to control other prints; so we will advance a little further and play with a portrait.

Here one has a grand chance for experiment. Just the face and some roses in the bodice were bleached, (excepting, of course, the eyes), washed, and placed in the sulphide bath. The result is rather weird.

The print is washed well, again bleached; and after again washing well, the surface moisture is blotted off, and the lower portion of the drapery developed with strong rodinal. This gave those parts a blue-black color. The hair is developed with amidol, and the background with amidol at half the ordinary strength. The result seems to justify expectations, but is rather patchy; so a final bath of a weak rodinal is given, just to develop up to the remainder of the drapery, and to fill in any spaces that were undeveloped.

As a final result, a print is obtained that gives a very pleasing suggestion of a color print, some of the colors—the eyes for example—looking almost a pure blue-gray, solely from color contrast.

One can add refinements to this treatment, as, for example, just brushing a weak devel-

A PHOTOGRAPHIC DIGEST

oper over the shadows of the face before sulphiding, or by giving a bath of gold and sulphocyanide as a final treatment. Then the face would become more of a pink, and the darks approach a rich deep black. In fact, there are infinite possibilities in it for experiment.

To change the contrast of the print, it must be bleached and redeveloped with a suitable developer. If it has too much contrast, this is lessened by developing with rodinal, which gives a grayish-black image; on the other hand, by developing with amidol we get a slight intensification and a blue-black image, and so on.

There is one condition to be observed by those who desire to be successful, and that is that the print must be fully developed out. —A. T. Larkin in *Photography*.

Hypersensitizing Autochrome Plates

There has been much discussion as to the merits or demerits of the various proposals to so far increase the sensitiveness of the autochrome plate as to render it suitable for snapshot or flashlight work, the extra sensitizing being performed by the user. Fog, false coloring, and irregular stains or markings have been attributed to the hypersensitizing process; but in a recent article M. Monpillard appears to arrive at the root of the matter. When pinacyanol is properly used it is practicable to reduce the exposure to one-fourth or one-fifth of the normal, and, in addition, the color rendering is actually improved while the picture generally is clearer and better modelled. Pinacyanol gives these admirable results, and carries the sensitizing farther into the red than is the case when pinachrome is used. The reader, at this stage, not unnaturally asks an obvious question. Why do not the makers hypersensitize every autochrome plate that is sent out? An answer to such a question rests in the fact that the highest degree of orthochromatising at present depends rather on the skill of the user than on that of the plate maker; the hypersensitized plates deteriorating so rapidly on keeping that it would be of doubtful expediency to put them on the market. Hence, in practice, the user must hypersensitize his own plates, and, when practicable, they should be exposed and developed within a week of the hypersen-

sitizing; but better still if exposed and developed the next day. To hypersensitize the autochrome plates, these should be immersed for six or seven minutes in a bath prepared by dissolving one milligramme of pinacyanol in about a cubic centimeter of alcohol, and adding this solution to one litre of pure distilled water to which two drops of strong ammonia have been added. There is no rinsing, and after draining, the drying must be effected in a cold drying box, sulphuric acid being the most desirable desiccative agent; but a careless or incompetent person may seriously injure himself with the sulphuric acid. The bath should be used immediately after preparation, but the alcoholic solution may be kept ready prepared for a moderate time under certain circumstances. It is better, however, to weigh out the solid pinacyanol as required, but a high-class assay balance must be used for weighing out a milligramme — *Amateur Photographer*.

Development and Halation

At a recent lecture by W. J. Smith, some photographs were shown which demonstrated the effect of development in making halation obvious. Mr. Smith had exposed plates on windows, through which the sun was shining, for various times, and then developed them for various times. The results showed that, whatever the exposure, if the development was sufficiently long, halation showed badly, whereas even with excessive exposure, if development were cut short, halation was not marked. Thus a pair which had exposure of two seconds and six seconds and development for six minutes, showed all detail absolutely buried, whereas a pair with the same exposure, but developed for only one-third the time, showed no halation, the detail even of the cross-bars of the window frame being perfectly sharp and well defined. The results emphasize the effectiveness of a method of avoiding halation—full exposure and curtailed development—to which we have frequently drawn attention in the past. Such practice is a natural outcome of the fact that halation lies chiefly in the lowermost layer of the emulsion, and any method of development which lessens the action of the developer on this part tends to reduce the production of halation — *British Journal of Photography*.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Those Free Manuals

Some day I am going to have a good joke on the readers, or that portion of them who read this department. I am going to fill up this space with valuable information, culled from these free manuals the manufacturers issue, and then, when the flood of letters come in, complimenting me upon the great improvement in the department and the vast amount of information it suddenly presents, I can enjoy the thought that our advertisers have been trying for months to get the same information, multiplied many times, into these same readers' hands. The plate makers issue booklets that go into every detail of the work, even to the extent of showing how a proper skylight should be built. The paper manufacturers issue manuals that cover every phase of the work, including the printing of tinted borders. Lens makers' catalogues contain information that the editor is asked to furnish every day. And so on down the list. All these advertisers ask is that one send his name and address; in fact, they spend good money each month buying space in our advertising pages in order to invite our readers to send for these booklets. We, of course, do not wish to encourage the reader to send for catalogues out of mere curiosity, but if one is using plates he should be quite conversant with the instructions the manufacturer is so kind as to furnish. If he be using developing paper he will be all the better prepared to secure the best possible results if he is familiar with that maker's directions. Informative matter concerning lenses and their uses should be of value to any photographer. And such is the case in almost every line of photographic manufacture.

A File of Back Numbers

Another good source of photographic information is a back file of this magazine. It is really quite surprising how many separate individuals discover this fact in the course of a year. I call it surprising, for the reason

that the ordering of a back file is not so natural a procedure as is the slower process of accumulating a file by waiting for the issues as they are printed. Last month we had a letter from a new subscriber in India, saying that the first two copies he had received were so interesting and instructive that he wished to secure the issues for the past five years, if possible. These he proposed to have bound, and then spend a few evenings making up a card index according to his own personal fancy, after which he could read up on any one of the given subjects that interested him, with the feeling that he was securing a fairly good insight into each one in turn. While we have never happened to draw attention to this method of securing a file, our appreciation of its value has inspired us to offer to send missing numbers within a reasonable time, free of cost to subscribers. This has been done with the hope that more readers would be encouraged to make an effort to preserve full files. It is quite evident that a reader, who should have all the information contained in a five years' file of our magazine at his elbow, would be quite capable of giving a good account of himself as a photographer. We are not overburdened with back numbers, having to advertise for certain issues of which we are short, but when an order is received for the back numbers for any number of years, we can generally secure the desired copies that permit us to make up the complete set.

Blue Print Cloth

A Massachusetts correspondent asks for directions as to the making of blue-print cloth; what formula is used and what kind of cloth is best suited. Any good formula suited to paper can be used. *Photo-Miniature* No. 10 gives several. Blue print formulas are like those for developers; one will suit one person, and another, another. The cloth most generally used is sold in the East under the name of "Near-silk." It is a

THE AMATEUR AND HIS TROUBLES

cotton cloth with a smooth finish similar to that used for the better and heavier grades of red bandana handkerchiefs. A good formula is as follows:

NO. 1.

Citrate iron and ammonia.....50 grains
Water 4 drams

NO. 2.

Red prussiate potash.....32 grains
Water 4 drams

This would no doubt be more suitable for cloth if less of the amount of iron and ammonia be used, say thirty-two grains instead of the fifty. Again, it might be advisable to keep the sensitizing solution more on the surface by dissolving the iron and ammonia in gelatine water (sheet gelatine ten grains, hot water one-half ounce) instead of water, as mentioned. The addition of ten drops of a ten per cent solution of bromide of potassium to each ounce of the mixed solution will cause the cloth to print slower, but greatly improve its keeping qualities. The best chemicals obtainable should be used and the iron and ammonia salt kept well protected from the air.

Using a Mirror in Focusing

An amateur in Illinois writes to ask if he cannot rig up a couple of struts, one on each side of his camera back, to hold a piece of mirror in position at an angle of forty-five degrees, so that he may see the image focused upon in its proper upright position. He can easily do this. It is often recommended by writers on the subject and looks quite tempting to the beginner, whose entire lack of practice makes the inverted image a source of annoyance. A more advisable plan is to overcome the difficulty by a little patience and perseverance. With practice one will soon learn to view the inverted image without noticing that it is not in its proper position. Not only this, but in judging the value of lines or masses in a composition, the inverted image is better than would be one correctly placed. I have even known good artists to turn a picture upside down in order to determine more readily just what was lacking in the composition. You may be sure that a composition that seems out of balance when inverted will be equally faulty when viewed rightly placed. The use of a mirror as suggested will only delay a lesson that will some day have to be mastered. In work

such as the reflecting type of cameras are used for, the aims are different and, of course, the same argument does not hold so strongly. Here one is generally attempting to secure some rapidly moving object in the most telling position, working, in a measure, regardless of the demands of good composition.

A Rest That Would Be Appreciated

I do not intend to suggest a rest from the pursuit of photography, but would it not be a good idea if we could only induce the makers of new papers, introducers of new developers, inventors of new processes, designers of new cameras, lenses and the like, to suspend their activities for a certain length of time, say six months, at the least? We would then perhaps find time to become acquainted with the ones we now have without our attention being detracted by the latest addition to the list, warranted to eclipse all predecessors. I am quite sure we would be great gainers by such an agreement on their part. Some of the best printing processes on the market today have failed to receive their merited popularity simply because something new and well advertised happened to enter the field at an inopportune time. The merits of a certain developing agent that I could name have never been more than partially appreciated merely from the fact that it entered the field about the same time as did several others with more distinctive though less meritorious claims. And so the story goes. If I were to be responsible for the photographic education of a certain individual, I would go about the work in this way: I would allow him to use but one developer, one printing process and a simple stand camera until such time as he had them perfectly under control. A desire to secure certain results would then be the only reason for changing to another article. With a good grounding of this kind experimenting would be of some value. If a person can take a medium plate with which he is familiar and expose it in a camera of the stand type, develop it with pyro and print it on platinum, for instance, he is in a position to try other things and judge intelligently as to the comparative value of the results. The individual who has not used any one plate, paper or process long enough to master the details of its manipulations, is wasting time experimenting with others.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

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NEW MEMBERS.

3393—J. Graham, 212 Ress St., Brooklyn, N. Y. 4x5 and 3¼x4¼. Developing paper. General views, landscapes, marine, and city, for same. Class 1.

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3405—H. A. Goude, 1208 J St., Bellingham, Wash. Developing paper. Miscellaneous subjects for the same. Post cards only. Class 1.

3406—W. E. Patten, Cylinder, Iowa. 5x7. Developing paper. Farm, stock and home portraits and lake scenery. Desires scenery and interesting subjects. Class 2.

3407—Mrs. W. H. Sawyer, Auburn, Placer Co., Cal. 5x7. Developing paper. Scenery for same. Class 1.

3408—Arthur D. Bradley, 4 Garden St., New Britain, Conn. 3¼x4¼. Developing paper. Landscapes, typical scenes and miscellaneous, for miscellaneous. Class 1.

3409—W. R. Whyte, 713 Call Bldg., San Francisco, Cal. Class 3.

3410—Mrs. George H. Coney, Box 25, Windsor, Conn. Class 2.

3411—Geo. W. Askew, Jr., 211 34th Ave., Meridian, Miss. 2¼x4¼ and 3¼x4¼. Developing paper. Street scenes, park, bathing, gala day events, races. Class 3.

3412—John E. Coddington, Box 366, Painted Post, N. Y. 5x7. Developing paper. Landscapes for landscape or nature studies. Class 2.

3413—F. D. Campbell, M. D., Rock Camp, Ohio. 5x7. Developing paper, of miscellaneous subjects, for miscellaneous or anything of interest. Prints and post cards. Class 2.

3414—Louis S. Todd, Plainwell, Mich. 4¼x6½. Developing paper. Farm, river, street, animals, flowers, cemetery, for 3½x5½, post card size or larger. Class 1.

3415—Frank J. Duffy, Box 121, Portland Mills, Penn. 3¼x5½. Developing paper. Post cards, landscapes and portraits, for photos of curios, prominent buildings, and outdoor life. Class 1.

3416—Leslie L. Long, Lock Box 183, Llano, Tex. 5x7. Developing paper of arid and semi-arid plant life, cacti and cactus blossom, all classified, birds, nests and small wild animals; for similar studies, or other interesting subjects, preferable in sets of six or more. Correspondence desired before exchanging. Class 1.

3417—H. H. Ostigay, Winooski, Chittenden Co., Vt. 3¼x5½. Developing paper. Scenery and railroad views; for railroad views. Post cards only. Class 2.

RENEWALS.

2090—Albert H. Tolin, 2185 N. Rural St., Indianapolis, Ind. 4x5 to 8x10, developing paper. Miscellaneous, especially landscape, for same. Class 2.

2645—Hugo H. Schorder, Bettendorf, Iowa. Developing paper. Post cards only. Class 1.

1921—G. T. Timmans, Box 242, Laurel, Mont. 6½x8½, 5x7 and post cards, developing paper. Landscape for same. 6½x8½, 5x7 and post cards only. Class 1.

150—J. C. Shinkle, Woodland, Cal. 4x6, 5x7, and post cards, developing paper, California State Capitol and California scenery, Yosemite, etc., for any State capitols and scenery. Class 1.

475—John R. Smith, Box 223, Provincetown, Mass. 2092—Robert Greethurst, Utica, Minn. 5x7, all kinds of paper. Landscapes for landscapes and kindred subjects. Only first-class work answered. Post cards or same size photos or 4x6. Class 1.

2563—Nathaniel Mortonson, 806 Hight St., Marquette, Mich. Class 2.

3073—Dr. W. R. Bush, Acheson Bldg., Berkeley, Cal. 2404—A. E. Fyall, 40 Hastings St., Vancouver, B. C., Can.

3028—C. A. Andrews, Leland, Wash., Box 14. 5x7 and smaller. Various kinds developing and printing-out papers of landscape, mountain and seashore views, camping.

CLUB NOTES

- logging, and all kinds of Western scenery, for anything of interest. Good work for good work only. Class 1.
- 2976—David H. L. Wills, 1227 Cambridge St., Philadelphia, Pa.
3¼x5½, developing and printing-out paper. All kinds of speed work, also open-air studies, nude and semi-nude, for same. Post cards. Will exchange paper by request. Class 2.
- 3193—E. A. Francis, 7 W. Lincoln St., Marshalltown, Iowa.
3¼x1½, developing paper, wood scenes, flowers, etc., for pictures of the "unusual." Post cards only. Class 1.
- 2568—Flora B. Horn, Box 24, Dallastown, Pa.
5x7. Several kinds of printing paper, mostly views. Class 2.
- 1045—Vince Dillon, Fairfax, Okla. Class 2.
- 3163X—Frank H. Harvey, care Div. of Carriers Accts., 1311 G St., N. W., Washington, D. C.
3¼x5½ and 4¼x6½, developing paper and post cards. Travel scenes, for same. Class 1.
- 276—I. N. Morrill, 2509 Pierce St., N. E., Minneapolis, Minn.

CHANGE OF ADDRESS.

- 3131—Milford Baker, Topeka, Kans.
(Was Box 346, Lander, Wyo.).
- 3357—W. E. Turner, 4200 Grand Boul., Chicago, Ill.
(Was 4217 Calumet Ave., Chicago, Ill.).
- 3393—J. Graham, 955 New York Ave., Brooklyn, N. Y.
(Was 212 Ross St., Brooklyn, N. Y.).
- 2761—Obert J. Hyland, Box 8, Harvey, N. Dak.
(Was Helmdal, N. Dak.).
- 2839—J. H. Chinnery, Scottville, Mich.
(Was General Delivery, Portland, Ore.).
- 3186—Geo. S. Higby, 3904 Ruby St., Oakland, Cal.
(Was Riverside, Cal.).
- 2898—H. H. Donley, Tionesta, Pa.
(Was Maysburg, Pa.).
- 2185X—Dr. G. P. Flores, 409 Elkan Gunst Bldg., San Francisco, Cal.
(Was care College of Physicians and Surgeons, San Francisco, Cal.).
- 3111—C. F. Hodgkinson, 173 Macquarie St., Hobart, Tasmania.
(Was Scottsdale, Tasmania.)

CLUB NEWS AND NOTES

California Camera Club

The various committees of the Club are showing considerable activity this season, resulting in much benefit to the membership, which has increased to nearly four hundred.

Frequent demonstrations of many branches of photography, regular monthly outings to various points of photographic interest with their sightseeing friends, monthly illustrated lectures at a large hall, monthly entertainments showing American Interchange and members' slides at the club rooms, print exhibits, negative and print competitions, and other events, have all contributed their quota towards a very busy summer season.

In the work rooms, many alterations and improvements have been made and additional equipment installed.

The first issue of the "California Club Annual," which was recently published, has received most favorable comment from all parts of the United States. Its contents will prove most interesting and instructive to any one who may order a copy. While the last copies will be mailed postpaid for twenty-eight cents.

Ninth American Salon

The Ninth American Photographic Salon, the one for the season of 1912-1913, will, as heretofore, be shown in the principal cities and museums of art for a season of seven months, opening in November, in the Carnegie Institute, Pittsburg. A movement has

been started to supply a collection of some three hundred and fifty prints to be hung in the Panama-Pacific International Exposition, San Francisco, 1915; collection to be selected from the past and succeeding ten American Salons. This feature should prove a strong impetus to pictorial photography and as an educational factor could hardly be excelled. The frames in the Ninth and Tenth Salons should make a strong showing in this collection as representing the latest work of our pictorialists.

The last or Eighth Salon met with such unbounded praise that the officers feel confident that the Ninth will be even better. The Salon has been cut down to not exceed one hundred and fifty frames, and this move has met with favor by all interested. The secretary writes that they hope to see the Pacific Coast better represented than last year, as they appreciate fully the good work of which our Western pictorialists are capable. Entry blanks can be obtained directly from the Secretary, C. C. Taylor, 3223 Cambridge Avenue, Toledo, Ohio, or copies will be supplied from CAMERA CRAFT office, which will, as heretofore, forward any pictures to be sent by workers in this territory, and make out entry blanks for the senders. Entries must be sent to the American Federation of Photographic Societies, care Museum of Art, Toledo, Ohio, to arrive not later than October first, 1912, and thereafter should reach CAMERA CRAFT office at once.

OUR BOOK SHELVES

"Handbook of Kinematography"

This book is a handsome one of nearly three hundred pages, fully illustrated, and well bound in cloth, with gilt lettering. Within these pages will be found a very full and complete exposition of the history, theory and practice of motion photography and projection. The book is a work of Colin N. Bennett, F. C. A., a gentleman of the widest capabilities and knowledge in the subject on which the book treats. While this, the first edition, has only recently been published, it is practically sold out, although copies can still be obtained of the *Kinematograph Weekly*, Tottenham Street, London, W., England. These publishers will fill orders for the book, to be sent postpaid, for one dollar and seventy-five cents. The book is worth many times this amount to any one at all interested in moving-picture work, and we would advise their sending for a copy, assuring them that full value will be received. There will, no doubt, be a second edition, owing to the quick sale of the present one.

"The Half-Tone Process"

This book, by Julius Verfassner, contains numerous colored and half-tone plates, examples of work, diagrams and illustrations of the apparatus used in the process. No such complete work has been published on this subject; in fact, it is the only work which attempts to give the practical details of the process from A to Z. Starting with an answer to the question, "What is half-tone?" and describing the all-important "screen," the author gives careful directions for the construction and equipment of the studio and dark room, the metal printing room, the etching room and the other departments of the business. The electric light installation is treated of fully, and the various operations from the preparation of the original to the proofing of the blocks, are explained in the fullest detail, practical formula being given for all the chemical

processes involved. The application of the half-tone process to two, three and four-color work, and to photo-lithography, especially in relation to offset printing, are dealt with. In fact, no phase of the process has been neglected, and not only the methods in current use, but various alternative processes are described. The reader who already has a knowledge of ordinary photographic methods will find in it everything that it is necessary to know for practicing the half-tone process. Published by Iliffe & Sons, Limited, 20 Tudor Street, London, E. C., England. Price seven shillings, eleven pence, postpaid.

"Photographic Copyright"

This volume, by George E. Brown, F. I. C., and Alexander Mackie, from the office of *The British Journal of Photography*, is a working guide among the intricacies of copyright law for any British photographer having occasion to dispose of the rights of reproduction in his photographs. This guidance is, of course, based upon the Copyright Act which came into force on July first last, but the authors do not fail to deal with past judgments in the Courts under the previous Act. In some cases, such judgments apparently are modified by the new Act, but hold good in others. The rights of a photographer in reference to the photographs taken of sitters in various circumstances and the rights, on the other hand, of sitters in their photographs are explicitly dealt with, so that the volume forms a reliable aid to portrait photographers in deciding business disputes which are at times somewhat perplexing. Conditions of obtaining copyright in foreign countries, and particularly in America, are fully dealt with. The pages are freely cross-referenced, and a full index is provided so that as a working guide the volume should discharge its purpose efficiently. Published by H. Greenwood & Company, 24 Wellington Street, Strand, London, England. Price one shilling, postpaid.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

W. A. Rice, of Berkeley, has taken up the moving picture line. Mr. Rice has just returned from Carmel-by-the-Sea, where he made moving pictures of the society play, "The Toad."

Mr. Sherwood, of Stockton, passed through the city on his way to Los Angeles, where he will enjoy a ten-day vacation.

George Dolan, of The Probus Paint Company, is enjoying a two weeks' vacation on the Farallone Islands. He expects to catch "20 big" fish.

W. S. Valentine was recently down from Redding on a vacation.

C. C. Green, of Marysville, was in the city recently.

Yours truly is starting on a two months' trip, during which he will attend the Pacific Northwest Convention in Seattle, September second to fifth.

The Wonderful New Parallax Lamp

This is a new lamp recently placed on the market by the well-known optician, Robert D. Gray, of Ridgewood, New Jersey. An advertisement appears on another page and we would advise all our readers to investigate the surprising efficiency of this new lamp. With it one can make home portraits and groups, artistic effects are easily secured, and for commercial work the lamp is indispensable. The picture reproduced herewith is only a fair sample of the work possible. It was made with the lamp about ten feet from the subject, an exposure of one second being given on a fast plate, using stop f 5. Had a four or five hundred watt bulb been used, the exposure would have been much less, but the maker recommends using two bulbs of two hundred and fifty watts when more light is wanted for portrait work. The picture above was made with one two hundred and fifty watt bulb. There is a smaller size made for direct enlargements and for contact printing, which can also be used for portrait work, and

particularly so in connection with the still smaller lamp made for enlarging. This latter lamp is guaranteed to enlarge from any negative not larger than 8x10, in one-thirtieth the exposure required by the bulb alone. The Mazda tungsten lamps are used, the remarkable power of the Parallax lamp being due to the construction of the reflector, increasing the volume of the light from the bulb about forty per cent by utilizing the two hundred and seventy degrees of light that are usually lost against the ceiling or walls, or dissipated inside faulty designed reflectors. Write the manufacturer for circulars describing the several lamps.

A New Method of Rapidly Drying Negatives

Views Lumiere und Sujurtz (Bulletin Societe Francaise Photographie) offer a new method of rapidly drying a negative. After a long experimental research among salts with a strong affinity for water, they state that a negative may be immediately dried by immersing it for five minutes in a saturated solution of potassium carbonate, squeezing out the excess and polishing off the rest with a piece of linen rag. The surface is at once hard, dry and polished. By analysis they found the film to contain very little water or carbonate. It can be printed from at once, but it is advised to employ it only as a temporary means, to be followed by short wash in water and normal drying. Amongst other advantages, over alcohol, is its cheapness (it can be repeatedly used) and non-inflammability.

"Analytical Advertising"

The firm or individual spending, or about to spend, money for advertising, realizes that there is a great lack of concrete, definite information that would be of the greatest value were it available. There has been published in the past a number of good books on advertising, very good books, but they do not seem to fill exactly the requirements of the man who wants actual figures

and facts. The man who wants something that is proven by actual records of real advertising, wants a book that is written by a real advertiser. He wants to be told in plain words just what relation there is between psychology and advertising, and the relationship should be shown by this table of actual results in connection with reproductions of the advertisements used as the illustrations. If these tables and records are of an advertising success, so much the better, as they more strongly confirm the author's position, his deductions are made dependable and his assertions are made authoritative. All this, and more, is accomplished in this new book, a real book on advertising. It would take entirely too much space to give it anything like a fair description. We can only say that there is no danger of our recommending the book too highly to any one interested in photography. We have only one point of disagreement with the author and that is with his stand in the matter of continuity. If one be advertising an article that the reader buys periodically, or an article bought but once yet coming into competition with other like articles being offered, continuity is a strong point; but, with an article having neither of these factors, as is the case with one of the principal examples the writer uses, it is perhaps economy to distribute the advertising without too great regard to cumulative effect of repeated and regular appeal. The book is published by the Business Service Corporation, 699 King Building, Detroit, Michigan. Price three dollars, postpaid, and sold subject to the purchaser's entire satisfaction.

A New Voigtlander Catalogue

We have just received the new Voigtlander catalogue and must advise all our readers to send for a copy. It contains an excellent paper on the judicious selection of photographic lenses, focal length, speed, construction, definition, working capacity, coma, covering power, and like topics. In addition to a full description of the full line of Voigtlander lenses, a number of the firm's most popular cameras are also pictured and described. The illustrations are exceptionally interesting as samples of fine photographic work made with Voigtlander lenses. Copies of this new catalogue can be obtained upon request to Voigtlander & Sohn, A. G. Optical

Works, 240 East Ontario Street, Chicago, Illinois.

An Interesting Exhibit

A friend of ours, who was at the National Convention in Philadelphia, was present at the exhibition, or demonstration, made in the E. B. Meyrowitz booth on the Radion Enlarging-Printer. The samples shown were very interesting, and he formed a favorable impression of the two models. To him, and no doubt to many others, the Radion Enlarging-Printer was one of the important attractions of the Convention. Our best advice to the dealers is to stock these enlargers, and to professional photographers to purchase the No. 2 model for making enlargements. We might add that the H. C. White Company are now furnishing extras for the Radion Enlarging-Printer, which were not shown at the Philadelphia Convention. Among these are printing-frame carriers for both models, so that enlargements can be made in printing frames instead of by fastening with push pins to easel, attachment for making lantern slides with No. 2, and a 23 x 29 easel board for the No. 2. Full particulars can be obtained from the H. C. White Company, 502 River Street, North Bennington, Vermont.

An Excellent Low-Priced Anastigmat

Attention is called to this month's advertisement of the Wollensak Optical Company, Rochester, New York, covering their Vinco, f-6.8, anastigmat lens. This lens has been purchased and used by several of our acquaintances, and they are high in its praise. When one does not feel able to invest in a high-priced anastigmat, that fact should not keep him from enjoying the superior merits of an anastigmat lens rather than suffer the shortcomings of a cheap lens of the rapid rectilinear type such as are sometimes sent out with cameras equipped ready for use. The Vinco is an excellent anastigmat lens that fully covers the plate, and it is sold at a remarkably low price. Ask your dealer to show you one, and give it a trial.

Graflex Pictures Wanted

The Folmer & Schwing Division of the Eastman Kodak Company is desirous of obtaining Graflex pictures for use in its publicity department. The makers of the excellent line of Graflex cameras would like

NOTES AND COMMENT

to have Graflex users submit prints they think would be suitable for advertising purposes. Those found suitable will either be purchased as negatives or payment made for the right to use them. Prints should be sent to Folmer & Schwing Division, Eastman Kodak Company, Rochester, New York. Users of Graflex cameras should not overlook this opportunity.

Beware of Counterfeits

The C. P. Goerz American Optical Company wishes to warn admirers of Goerz lenses against purchasing these well-known anastigmats other than from reputable photo-supply dealers or from persons of whose honesty there can be no doubt. A Syntor lens of four and three-fourths inches focus (No. 228,430), which was recently sent to the factory by its dissatisfied owner, proved to be a counterfeit, the original elements having been removed from the barrel and comparatively worthless glasses substituted. Other similar cases are on record.

A New Factory

Plans have been prepared for a new factory building at the plant of the Defender Photo Supply Company in Driving Park Avenue. The contracts have been let and ground broken. The structure will front on Driving Park Avenue and extend three hundred and eighty-five feet along Argo Park. It will be devoted solely to the manufacture of sensitized goods and will contain the latest devices not only for making a superior product, but also for the health and welfare of employees.

Frank Wilmot, president of the Defender Photo Supply Company, recently said: "The new factory will add twenty five thousand square feet of floor space on one floor to our present buildings, increasing the total floor space by one-half. The structure will be of brick and steel, with slow burning construction and fireproof roof. Our dry plates are made at present in Philadelphia and upon the completion of the new building another industry will come to Rochester. The change is made primarily for economy of operation.

"The installation of a one hundred ton ice machine as an auxiliary to the present refrigeration plant will be required this season, as well as new power and pumping machinery. Within the past year capacity of

the power plant has been doubled, and at present one thousand horsepower is developed." The new building will be ready for occupancy January first.—*Post Express*, Rochester.

A Note of Warning

With all manufacturers, including those producing chemicals, the maker's guarantee applies only to such goods or products as are put out under his label. Goods sold in bulk are without guarantee, once the original labeled container is opened. For this reason a repacked product goes to the user without the guarantee of the original maker; the public, the consumer, having only the reliability of the repacker as his guarantee of quality.

This matter of the maker's guarantee, as given by his label, is becoming of particular importance in the photographic chemical field, as many mixtures are now being offered to photographers with the claim that they are the same as older and better known products of proven purity and merit. It is quite easy to prepare numerous combinations of the well-known developers, and give such combinations new coined names. In the majority of these cases the so-called new products are sold at a higher price than are the separate products which enter into their composition; and, as the manufacturers of the original developers gladly furnish formula for all kinds of combinations thereof, it seems strange that any one can be induced to purchase these repacked chemicals.

The Baltimore Club Affiliates

The affiliation of the Photographic Club of Baltimore City with the Maryland Academy of Sciences is announced. Under the plan of affiliation, the Photographic Club retains its own identity and organization, but will be known as the "Photographic Section of the Maryland Academy of Sciences," with the parenthetical explanation (Photographic Club of Baltimore City).

The Photographic Section of the Academy will occupy handsomely appointed rooms on the ground floor of the Sciences Building, 105 West Franklin Street, and will have ideal facilities for all phases of photographic work, including studio for portraiture, enlarging room with dark-rooms attached, separate dark-rooms, and complete equipment for making lantern slides, etc. The

CAMERA CRAFT

meeting and exhibition room will be trimmed in green and white and there will be space for hanging about one hundred large prints. The handsome assembly hall of the Academy will be at the disposal of the Photographic Section for exhibition of lantern slides, lectures and other entertainments.

There is every expectation of increased membership, once the Club is fully estab-

New Ansco Catalogue

"Ansco, the Means of Education and a Source of Enjoyment for Old and Young Alike." This simple statement, made by Elbert Hubbard, forms the title page of the Ansco catalogue for 1912. It is a camera catalogue that carries a message of great importance to mankind. Its artistic cover

design represents the idea expressed by Elbert Hubbard in his interesting preachment, "Snap Shots and Education," with which the catalogue itself is prefaced, and the preachment is illustrated with thumb half-tone vignettes showing pictorially the value of any agency that helps to bring the old and young together in close touch with nature and the great out-of-doors. The illustrations begin with Aristotle, whose methods in school-teaching have never been surpassed, and his apt pupil, Alexander the Great, bringing us down to this day and generation in which Ansco photography, according to Elbert Hubbard, is "the means of education and a source of enjoyment for old and young alike." Be sure to send to the Ansco Company, Birmingham, New York, for a copy of this 1912 catalogue. It is worth having, and is one of the few pieces

of free advertising literature that may be read with interest and profit from cover to cover.

And while you are about it, ask for a copy of the new Ansco Film booklet. Like the catalogue, it is absolutely free. It contains some valuable information, particularly helpful being the chapters devoted to Time Exposures Indoor, Time Exposures Out-of-Door, and those on development.



lished in its new quarters. Even at the present time, with many of their active members away for the summer, some ten or twelve new members have been elected. The officers of the Club are as follows: President, James F. Ferguson; Vice-President, Harry A. Harvey; Secretary, Geo. H. Rowe, and Treasurer, J. A. O. Tucker. The Club extends a cordial invitation to all patrons of the "art beautiful" to sojourn with them when in Baltimore.

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SAN FRANCISCO, CALIFORNIA

FAITH & FACTS

may both be important factors in deciding the merits of a photographic paper, but it is *safer to know* than to believe. *Know then* that

CYKO PAPER

is used by most of the real masters of photography.

CYKO PRINTS contributed by these masters formed the most artistic and educational feature of the Convention of the Photographers' Association of America, held in Philadelphia, Pa., the last week in July.

They were all exhibits by artists who are actually using CYKO in their daily work.

Each grouping of CYKO prints was so different in expression, showing such distinct personality, that the wonderful qualities of CYKO paper were never so impressively presented.

For *the proof* of these statements see issue of August PORTRAIT for "What Many of the Leading Photographers Said About the CYKO exhibit."

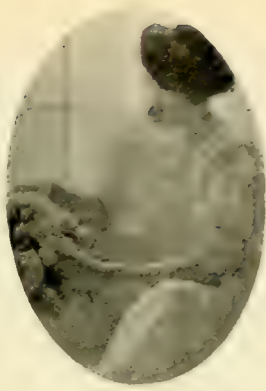
AnSCO Company

Binghamton, N. Y.



A HOME PORTRAIT
BY F. MORRIS STEADMAN

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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No. 10

Lantern Slides

By Burton H. Allbee



With Illustrations by the Author



No long argument is required to convince amateur photographers that one of the best ways to preserve and exhibit their favorite pictures is by means of the optical lantern. And the principal objection to this method has been removed, in recent years, by the reduction in price of the lanterns; still, if a good lantern is considered too expensive for one to buy, several in the same neighborhood can unite, and the cost to each will be relatively small. It is probably

likewise unnecessary to enter into a long discussion of what the slide is and how it should be manipulated. Every amateur should know by this time that a lantern slide is really nothing more than a print on glass. It may be made by contact, like an ordinary print, or it may be made by reduction, which corresponds to the making of an enlargement. In either case it is not too difficult for any amateur to undertake. American lantern slide plates are 3 1/4 x 4 inches.

CAMERA CRAFT

English plates are square, $3\frac{1}{4} \times 3\frac{1}{4}$ inches. The latter are seldom used in this country and need not be considered.

The prime requisite for a good lantern slide is a good negative. That is, a negative which is without pinholes, spots, or other major or minor defects. Anything which appears in the negative, no matter how small and inconsequential it is, will be magnified upon the screen and will appear as a defect, which spoils the appearance of the picture. Therefore, discard negatives containing such defects. The quality of the negative is the same as that of a good printing-out paper negative. It should be sharp, crisp, and inclined to pluckiness. The picture is softened in the enlargement on the screen, and any harshness is usually taken out. At least, these are the negatives which a beginner should aim to produce. Afterward, when he acquires proficiency in making, he can modify them to suit his own inclination. The brand of plates used does not particularly matter. Probably the best brand for the amateur was the old Carbutt lantern-slide plate. Since it is no longer possible to obtain that, any one of half a dozen brands commonly handled by dealers will suffice. The main thing is, it should not be too fast.

Most plates carry directions for exposure, which do not always work out satisfactorily in practice. For example, the instructions with one brand say, expose for ten seconds, twelve inches from an ordinary gas burner. My experience has been that so doing hopelessly over-exposes the plate. In fact, it veils over so quickly that one cannot get it out of the developer before it is spoiled. I began experimenting with different distances from the light, and by shortening up the time, until I now hold the printing frame five feet from the light and expose from four to ten seconds, depending upon the density of the negative, and almost invariably I get good results.

Though every lantern plate has its own formula which, speaking in general terms, is most suitable for it, I want to give one formula which has worked successfully upon every brand of plate with which I have used it. It gives good blacks and excellent gradation, with clear highlights. If the formula you use doesn't quite suit you, try this:

No. 1:	Hydroquinone	60 grains
	Sulphite of soda (anhydrous).....	1 ounce
	Citric acid	10 grains
	Bromide of potassium.....	10 grains
	Water	10 ounces
No. 2:	Carbonate of soda.....	1 ounce
	Water	10 ounces

Use equal parts. This formula came from England; and, for producing a slide with clear, cold tones, it is unequalled.

It doesn't matter what sort of a camera your negatives are made with. One of those which accompany this article was made with a No. 1 Brownie, another with a No. 2, and so on. Those from small cameras can be used for contact slides, always. Larger ones must either be reduced, or only a portion of the negative used. A 4x5 is about the largest plate that can be successfully employed for contact work, though some 5x7 negatives will have portions which

LANTERN SLIDES



will make good contact slides; but, as a rule, the larger ones should be reduced. Some of the best slides I have are from negatives made in a 1A Kodak. The No. 3 is better, because that size of film is the correct size for our American slides. The 3A, owing to its length, leaves some things to be desired, at times, though if care is exercised in making the negative the resulting slide will be pleasing. If care is not exercised, the required picture is quite likely to lap over at one end or the other and some of the negative will be lost.

For reducing from a 4x5 negative, I use a lantern-slide camera that cost me one dollar. It is fixed focus and one cannot misplace its parts should he try. It makes a good slide from that size negative. A 5x7 reducing apparatus requires a larger camera and a longer focus lens. The apparatus is, therefore, more expensive, and probably few amateurs would care to invest the required amount in a slide camera of such size. Here is how I work my 5x7 negatives, of which I have a large number. I took a thin piece of board and cut a perfectly square opening, about a quarter of an inch smaller than the negative, in it. Two grooved strips were nailed to one side, one on each side of the opening, so the negative could be slipped in. It took about half an hour to make, and cost nothing. I slip the negative in the grooves, place the whole thing, with the glass side out, in a window, put a kit holding a lantern plate



CAMERA CRAFT

in my 5x7 or 4x5 camera, it does not matter which, and make a photograph of the negative in the window on the slide plate in the camera. Do not let direct sunlight strike it, and do not place it where trees or buildings will come within range of the lens. If you do, you will get them on the slide. Rather, aim your lens at the clear sky, preferably to the north or west. The exposure you will have to learn for yourself, but it will be short. Develop your slide in the usual way and you will have an excellent reduction of the 5x7, or any other size, negative; it is all the same. It is well to use a magnifying glass and focus sharply; using a small stop, not larger than f-16.

I want to impress upon amateurs that it is comparatively easy to make slides from any of their negatives without incurring much additional expense. You will spoil some plates, but you spoiled some paper before you learned to print. And the slide allows so much more enjoyment, and opens up such limitless possibilities for pleasure and instruction, that the few plates lost in learning will not be a bad investment. Besides, they will not be wholly lost, like paper. Wash off the emulsion and use them for cover glasses. The latter cost about half as much as the coated plates; so you will not be so much out.

As for subjects to make into slides, they are endless. The pictorial worker has his pictures, which are improved by being magnified upon the screen; and this last, by the way, can be extemporized from a sheet or a white tablecloth, that need not cost a penny. The record worker has an endless source of enjoyment in seeing his records upon the screen. The man who makes industrial pictures, or the portrait worker, the flower photographer,—all alike can share in the pleasure. It is not difficult to produce the slides, and the results are sufficiently attractive to justify a little extra work.

I am not a pictorialist. I do not believe I have, in all my collection of negatives, a single one that would pass as a picture. But I have some valuable records. For example, I have photographed during the past few years a large number of old Dutch houses erected by the early settlers of New Jersey, some of them three hundred years old. These have been much sought after as illustrations, and a set has been placed in the archives of every patriotic society in New Jersey. The Metropolitan Museum of Art, of New York, has asked for a set of prints, enlarged to 10x12, to be filed in its architectural department for the benefit of architects who visit the museum looking for suggestions. Slides have been made and I have used them in giving more than one hundred lectures upon Dutch homes, their peculiar architectural features, and other subjects. I lecture each winter in the public school courses in the larger cities of New Jersey, and in New York, using these slides. And I suppose more than a dozen historical societies have seen them, and have heard what I have to say about them.

Few amateurs are pictorialists, but all can make clean records of the interesting things in their vicinities. There is something in each community that is interesting, and whatever this may be, it can be photographed, information can be gleaned regarding it, and a talk can be given at your home, your club, or your lodge, that will amuse and instruct, and at the same time you will be

LANTERN SLIDES



MOUNTAIN NYMPHS

By G. SCHLOTTMANN

developing your own powers of observation. This is one of the uses of photography. I sometimes regret that I am not artist enough to be a pictorialist, but I am not; so I have done as well as I could with the talents I possess. I have been able to give some information and have given many people much pleasure with my lantern and my slides.

Any amateur can do the same, so far as affording enjoyment to his friends, and at no greater trouble than making a print on paper, something which can only be seen by one or two persons at a time. Reproductions of a few slides, which were taken from my collection as they have been used in my lectures, accompany this article. They were not made for this special purpose, but were selected to show the range of cameras used, and what is possible with the cheapest amateur outfit. Others can do quite as well, probably better, for few are so devoid of artistic talent as I am. And in proportion as they have this talent will their slides be more beautiful than mine.

Life and education are identical because the period to which we traditionally confine the latter term is merely the period of more formal, definite, determined adjustment, yet just so long as life lasts and our impressionability and plasticity remain, we are always adapting ourselves to this environment, gaining power like Antaeus of old, each time we touch the Mother Earth from which civilization springs. —NICHOLAS MURRAY BUTLER.

The Distribution of Light in Nature

By F. Morris Steadman



With Illustrations by the Author

This is the first of the series of articles Mr. Steadman offered to write in case there were received an encouraging number of requests. There certainly has been a most gratifying number of such requests, and we are pleased to be able to give our readers the benefit of Mr. Steadman's deep study and practical experience along the line of systematizing photography, and particularly that part connected with correct exposure.



AN AT-HOME PORTRAIT

HE light from the sun, before it reaches the earth's surface, must penetrate the atmosphere which surrounds our planet; the air, this atmosphere, catching and holding, as it were, a portion of the sunlight, becoming in itself a source of illumination to the earth's surface. Were it not so, were not this light from all quarters of the sky during all the hours of daylight, falling into the shaded corners and into the windows of our homes, objects would have a rather ghastly appearance. The sky itself would probably appear black, and a cloud passing between us and the sun would compel us to feel our way about like a blind person, until it had passed. Rooms whose windows were away from the sun would be in darkness, and the only softening of the effect, even out of doors, would result from the light being re-

flected from one sunlit surface onto another not itself reached by direct rays from the sun. Things would appear "hard" and without any feeling of atmosphere; as, in fact, they would have no atmosphere to help in softening their appearance. Objects would appear much as if under a powerful search-

THE DISTRIBUTION OF LIGHT IN NATURE



THREE EXAMPLES OF THE AUTHOR'S REGULAR OUT-DOOR WORK

light. All the delicate gradation of light and shade with detail through half-tones and shadows, can be called an effect of atmosphere, as without this light from the atmosphere there would be little other than bright, ungraduated high-lights.

Luminosity in a shadow is the echo of light from other surfaces which are themselves lighted by some brighter source. All nature is filled with these echoes of the sun's light and with minor echoes of all other actinic surfaces, as they in turn are lighted and send out again a portion of that light. It is in this way that the original light of the sun, which is itself so intense, is finally distributed with such a marked degree of softness to all sides of the objects about us. No matter in what location we may find ourselves, whether on top of a hill or within a room, we, and all other objects, are completely enclosed within a more or less complicated network of reflecting surfaces and expanses. To state a simple geometrical truth, each point in an expanse, be it mist, steam, smoke, atmosphere or the like, receives light from a full sphere of directions and sends it out again in the same measure, while a point located on a surface can receive and send out light from and to a hemisphere of space. But in the art of "lighting," as we should know it in photography, we must consider objects as being surrounded by a sphere of space, as it is from this sphere that the light must come that gives us the brighter and weaker lights over the subject, or, as we term it, gradation of light and shade. Since, theoretically, no two points can occupy the same position, no two hemispheres of light source can be the same. As one moves about, it is evident that he is continually nearing some objects while he is receding from others. Suppose that one be within a room; the walls of the room completely surround, with perhaps a bit of sky showing through an open door or window. As the door is approached, a part

CAMERA CRAFT

of the sphere of space, or universal light source, is changed from wall to sky. If a pause is made immediately in line with the wall, as one passes through the door, the upper hemisphere, that from the horizon upward, will consist of half sky and half wall; and as one passes outward through the door into the open, the sky would quickly predominate in the enclosing hemisphere of illumination.

In order to properly distribute the light over an object, giving greater or lesser value at different points so as to obtain a well-rounded and perfect negative, it is not so important to know what appearance that object should have under the light, as it is to know the condition of the sphere of illumination that surrounds it. The latter is the cause, the former only the effect. To understand and be able to modify the cause is to know the effect and be able to secure it with a minimum amount of effort or number of experiments.

Try to imagine the satisfaction experienced by one who understands these matters, in passing through a grove of noble trees. At each step the light source is modified, producing different light and shadow effects. One spot is ideal for a certain effect, at another a perfect narrow lighting could be secured, and so on. By moving from one spot to another among the trees, one simply shifts the properties of nature's studio much as he would, on a smaller scale, move the curtains about under the ordinary studio skylight.

In order to fully grasp this truth, the worker should endeavor to analyze the space which surrounds the head of a subject. If out of doors, and the sun is high, the light will be too strong for the eyes and cause them to squint. Such work should be done on the shady side of a house or group of trees, when the sun is rather low or the day cloudy, or under a porch.

Let us suppose a portrait is to be made, and that the day is one with over-spread clouds just dense enough to make a soft haze. Out in the open, it should be very clear to any one, the face will have as much light on one side as on the other; but if the subject be placed back near a tree or dark wall, the side of the face next to the wall will become shaded. It should also be seen that some other object comes behind the subject to give a background that will photograph darker than the subject in order that the face will be the lightest part of the finished picture, which is usually desirable. Since we must have a background, and this shadow on one side of the face, it is clear that one should look for an enclosed nook or corner in which to pose the subject.

Get in the habit of looking at the sky when locating a suitable place in which to take an out-of-door portrait. Going into a shaded or enclosed nook, turn about and look at the sky and observe how great an expanse is visible. Pass under a tree to an extent that shuts out the top light somewhat away from the face. While one can remember that, in the matter of lighting the face, every rule has its exceptions, it is best to learn the rules first, since, if one be ignorant of them, he will be equally ignorant of the exceptions. In examining the illumination, the amount of sky that is lighting the nook, a good plan is to raise one's hat so that it shuts off the sky from one's eyes, holding it closer or farther from the head until it occupies or fills the whole visible sky space. It should do this, ordinarily, at a distance of one or two feet from the eyes. In nearly all purely out-of-door cases such as the one mentioned, there is enough

THE DISTRIBUTION OF LIGHT IN NATURE



SOME HOME PORTRAITS THAT REQUIRED ONLY PROPER LIGHTING.

distribution of the light, by reflection and by additional light filtering through the trees, to provide the shaded side of the face with enough intensity to balance the brighter lighted parts illuminated by the sky, and so produce an amount of contrast or balance of values well suited to the capabilities of the average plate or film.

Now, suppose that we have, instead of these trees, a cave in the rocks giving the same amount of sky visible from the subject's position therein, the lighted side of the face would get the same light from the sky, but there would be no reflected light or "echo" on the shadow side. One condition is just as natural as the other, but, in the case of the cave, there is no wall opposite the opening to catch and echo the light and the natural contrast between the greater and lesser lighted parts of the face would be too great to be recorded by our plates and films. For this reason, one must be able to see why and when the face is too dark on one side, giving too great contrast, and to be able to remedy it. Nature must be assisted by bringing up another wall, closer to the head, one usually called a "reflector," as though it were in any way different from any other illuminated surface that might assist in distributing the light.

Every home window is a slightly improved duplicate of this cave opening, the walls of the room echoing the light a little better than do the cave conditions. On a porch the side wall gets much more light from the sky and the ground than do the walls of a room; and, therefore, under a porch the lighting on a face is more easily brought into a correct balance for photographic rendition. Within a room, however, it is clear that one must bring one of these "reflectors" into position temporarily, so that it will catch and reflect the light much as does the wall under the porch. Hence the need of a reflector, and this should not be difficult to understand.

CAMERA CRAFT

It is astonishing, but true, that thousands of amateurs are snapping pictures who really are unable to determine whether the sunlight is striking the subject's face or not. It is a very common occurrence for the commercial finisher to run through a ten-exposure film and find nothing but a faint outline of a face. The sun was perhaps shining, but the face was under a wide-brimmed hat where no sunlight could reach it, or perhaps the subject had been placed in the shadow of a house or some other object, yet the user of the film will insist that the sun shone upon the face. The average person is utterly unable to see effects of light and shade, much less can he judge of their actinic value. Possibly he has never heard of these values, despite the fact that they control the results with every photograph that is taken.

I have, in this article, tried to explain the need of ability to see and control the disposition of light and shade, which is the first round in the ladder of photographic success, as stated in my last article. Imagine the effect on the present work of photographers were every owner of a camera at once endowed with the knowledge necessary to enable him to take full advantage of the natural light that is all about and so well suited to portraiture. But this desirable condition is many generations ahead. In the meanwhile the professional understanding the subject and applying his knowledge to home portraiture, is to have a long run. Even the wise men of the studios are going out into the homes of their clients, making portraits that please much better than the studio productions.

This matter of light distribution should not be considered lightly or as merely the trick of using a reflector. It is much more; it is the ability to see, to appreciate, and to apply to one's work this law by which nature so beautifully distributes her light. To be able to use this law, to avail oneself of its power with accuracy and good taste, spells success.

I have already dwelt upon the fact that out-of-door light and shade effects, as explained for porches and nooks as well as for sunlight effects, have that degree of contrast suitable for our modern plates and films. In so doing I have about covered the second item in the classification in my former article, so it is hardly necessary to write a special article thereon. I can, therefore, dispose of this second proposition in a few words.

Some subjects, such as birdseye views and scenes with light foregrounds, have practically no actinic contrast whatever; but rather, they present a spread of detail with all parts in much the same light. Such subjects are rendered, by the average plate or film, with an unsatisfactory lack of contrast. When it is necessary that such a subject be photographed, a plate or film having a hard emulsion should be used; when, with correct exposure, a quite vigorous negative can be obtained. The ordinary plate and film are suitable for that degree of light and shade contrast found in portraits and average views. As to subjects having too great actinic contrasts, they should be recognized, and, when possible, avoided.

When one comes up to the mark he has set for himself, it is a safe conclusion that the standard was too low.

Photography in the Lumber Camps

By William Roleff



With Illustrations by the Author

These lumber camps are composed of from twenty-five to two hundred men, the larger ones having two sleeping camps. These sleeping camps have double bunks built against the walls, all around, in tiers of two, top and lower. In front of the bunks is a bench for the men to sit on, and in the center of the room are two large camp stoves with racks above for drying purposes. The men arise between four and five o'clock in the morning, have breakfast, and leave for work before daylight, going all the way from fifty feet to three miles from the camp. When working a mile or more from camp, they eat dinner in the woods, the "Bullcook" hauling it to where they are at work. He builds a fire and there makes tea, the meat and beans being in large kettles that are placed near the fire to keep warm. In most of the camps the food is very good and well cooked. The men stop work at dark, return to camp, and, when the supper horn is sounded, they all rush for the dining camp. This last contains two rows of tables extending the full length of the room. At nine o'clock the lights are all out and the "Jacks are in the hay."



A TYPICAL GROUP OF LUMBER JACKS

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HAULING LOGS TO THE LANDING.



LOADING LOGS ON CARS

The camps are built of logs or boards, tar papered. The office is a separate building with bunks for the boss, clerk, foreman, scalers, and occasional guests. There is a blacksmith shop with bunk for the blacksmith and "wood butcher"; the saw filer also has his own shack and bunk, and the cook and "cookies" have bunks in the end of the cook camp. The kitchen and dining camp are combined in one room. From twenty-five to seventy-five head of horses are used for skidding the logs and hauling them to the landing on the lake or river, from where they are driven down stream to the mills, in the spring.

The camps are composed of Americans, Swedes, French, Finns, Austrians and Montenegrins; and as but few of them can speak English, they are



A GROUP OF TEAMSTERS
452

PHOTOGRAPHY IN THE LUMBER CAMP



A QUIET GAME IN THE OFFICE.

known only by numbers. Carrying a set of sample prints, I go around the camps in the forenoon, showing them to the men, and explain how I finish and deliver the pictures. After dinner I get out the crews from the sleeping camp, having quite a time to get them started; but when a few are in position, the rest is easy. These done, I next get the teamsters with all the horses for a group, and other pictures follow as opportunities present. There are so many different kinds of peddlers, most of them fakers, trying to sell, that the boys look with suspicion upon every one until they are convinced that they are honest. Now that I am acquainted, everything is clear sailing; and, as the lumber jacks are always changing from one camp to another, staying from one day to three



THE BLACKSMITH SHOP



THE SAW MILL

CAMERA CRAFT



THE COOKS AND



THE WAITERS

months, I am constantly running across men that I had met before, in the new camps visited, and they help me greatly to overcome the suspicion mentioned above. Sunday and Monday are the best days. Sunday the boys are all in camp; in the forenoon they boil their clothes and shake the blankets, and this gives me the afternoon for picture making. I finish the pictures at home, sending them in to the camp by the railroad boys, getting the clerk of the camp to deliver them, and he generally gets a few extra orders when doing so.

As most of the camps are along the railroad logging spurs, I do not have to carry my outfit very far. I have a toboggan on which I can haul my outfit, if I have far to go. I carry a 5x7 camera for postal cards and a 6½x8½ view, fitted with an 8x10 anastigmat and a wide angle for flashlight work. Next winter I expect to carry a portable dark-room, so that I can develop and finish in the camps. Last winter the camps were only fifty-seven miles away, so I finished the work at home and spent a few days with my family each time.

I am a barber by trade, starting to make pictures only for my own amusement, about three years ago. I made picnic groups and other work that I could get on Sundays, finishing it evenings after working hours, and with what money I earned in that way I bought my present outfit and all material, including that for experiments. Last fall, business being very poor, the proprietor of the shop suggested that I try the lumber camps and see what I could do in the picture line. Off to the tall and uncut I gladly trailed, and everything went



SHOEING HORSES
454



IN THE OFFICE

PHOTOGRAPHY IN THE LUMBER CAMP



A FLASHLIGHT GROUP OF LUMBER JACKS

very well from the start. I took my combs, shears and razors along, the clerk and foreman of a camp always need a haircut, so I was the angel on the job, easily picking up enough of this work to pay expenses. I got acquainted in that way very quickly and the three months spent at the camps were the most enjoyable I have spent in years, the fresh air and exercise adding several years to my life. The lumber jacks are good buyers when they get first-class work; they are by no means "easy marks," but when they find out one wants to be square with them, they are good friends.

I am going to start for the camps about the first of November, and as the big game hunting season opens November tenth, I can do photograph work in the camp while out hunting, not losing any time in the "struggle for existence." Northern Minnesota is one of the best hunting sections in the country for deer and moose. I have a few very nice pictures of deer in their native haunts and expect to get a good moose picture this coming winter. The pictures herewith will give a good idea of life in a Minnesota lumber camp. The interior views were all taken on $6\frac{1}{2} \times 8\frac{1}{2}$ Standard Extra plates with a Gray Wide Angle Stigmat, Series II, of five and one half inches focus, stop f 16. The illumination was Victor flash powder used in a Victor flash lamp No. 2 having a fifteen-inch trough. Four teaspoonfuls of Victor powder were used for each flash, on account of the small stop and the dark walls. In the small rooms they were measured level full, in others slightly rounded, and in the largest room heaping full. I find both the Victor powder and the Victor lamp a great help in my work and the good pictures they make possible add greatly to my reputation as a photographer among the men of the camps.



A WINTER LANDSCAPE

By EDWARD B. JOHNSON, B. S.

No. 12 pin-hole, $6\frac{1}{2}$ -inch draw (U. S. 380),
 $4\frac{1}{2}$ minutes exposure, bright sun, 3 p. m.,
February. Standard Polychrome plate.

Pin-Hole Photography

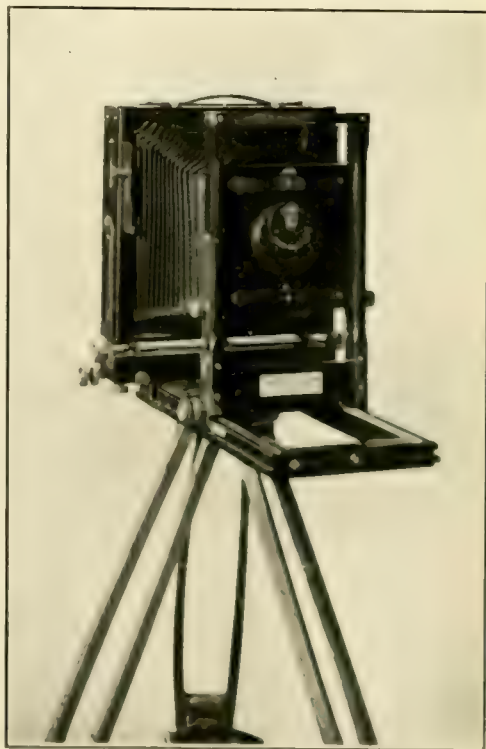
By Edward B. Johnson, B. S.



With Illustrations by the Author

It is surprising how few amateur photographers take up pin-hole photography, considering the beauty of the results obtainable. The procedure is as simple as that when using an ordinary lens, while the pictures have a character that is distinctive. In addition, one will often find a pin-hole a very useful alternative for special work. As a substitute for the lens, the pin-hole has its limitations as well as its advantages; and these understood, the worker will recognize conditions under which the use of the latter will result in the betterment of his work. The chief advantages are: Universal focus, practically any angle of view within reasonable limits, and softness of image. The principal disadvantages are: Long exposure necessary; difficulty in focusing, or rather, locating the image; image lacking in sharpness, and inability to cope with moving objects, and trouble caused by wind, both due to the long exposures required. Simple, practical instructions, short cuts in practice, and helpful suggestions on the subject of pin-hole work seem quite scarce. This has tempted the writer to offer a description of his own methods and explain how he has simplified the process in his own practice.

If one's lens and shutter be removable, it can be replaced with a so-called pin-hole lens supplied by the dealer, generally so arranged as to be interchangeable. If the camera is one using film, a slide or other means of protecting the film during the transfer should be available. A plate camera, or one fitted with a film-pack adapter, is the most suitable. A tripod must of course be used. It is no doubt best to buy the pin-hole from a dealer, as they are cheap; and with a little care will last a lifetime. In addition, the exact size of each pin-hole being known, the calculation of the exposures is



CAMERA CRAFT

greatly simplified, as compared with the home-made article having an aperture of unknown size. Burke & James, of Chicago, are American agents for the Watkins Pin-Hole, one I have found very satisfactory. The pin-hole lens, the best one, comes with five openings, designated by Watkins-Power numbers, 3, 6, 8, 10 and 12. These sizes bear a definite relation to the necessary exposures, a matter to which I will return later.

The pin-hole is simply a small hole pierced in some thin material such as black paper, sheet brass, tinfoil, or the like. If paper is used, a red-hot needle may be run through, making a clean-cut hole. The sheet metal may be placed on a block of wood, a bulge given it at the desired point with a blunt nail or punch, this bulged portion filed down until quite thin, and then pierced with a needle of the desired size. To prevent the edge of the hole giving defraction, the metal is blackened in any suitable manner. The "lens" is completed by fastening this perforated piece of paper or metal over a larger opening in a block of wood, this last covered with velvet on the back and fitted with springs or clips so that it can be placed against the lens opening in the front board of the camera and be clamped tightly in place. Another good plan is to have a second lens board with a small opening in the center and attach the perforated paper or metal directly thereto. A small piece of sheet brass can be so hinged at one side as to swing in front of or away from the pin-hole and act as a shutter or cap.

As in ordinary photography, the procedure is as follows: Focusing, inserting the plate, making the exposure, and developing and printing. I will take these up in their order, beginning with focusing. This, with the pin-hole, becomes more a matter of locating the desired amount of the subject or view on the ground glass, the distance of the pin-hole from the plate making practically no difference in the definition, but altering the amount of view secured, as well as the size of objects therein. The pin-hole lens has no given focal length or plane of sharp focus, as with an ordinary lens. The bellows may be extended to any reasonable extent or compressed so as to bring it very close to the plate and still give its characteristic soft image upon the plate. At neither extreme nor at any intermediate point will the image be sharp, but have the pleasing softness peculiar to pin-hole photographs. As the bellows is extended the angle of view becomes more narrow and the size of objects becomes larger; conversely, as the pin-hole is brought nearer the plate, the angle of view increases and the size of objects decreases. From this last it can be seen that the pin-hole can be used for wide-angle work; in fact, with a very small hole, excellent interiors can be made. According to the *Photo-Miniature*, a number 8 or 10 pin-hole should work at an angle of one hundred and forty degrees. There is, of course, a limit to the width of angle that it is advisable to use, due to the falling off of the illumination at the extreme edge of the picture. With the pin-hole very near the plate, it is obvious that the illumination must be somewhat stronger at the center than at the corners. However, it is only on extreme wide-angle work that this becomes evident in the resultant picture. The pin-hole, used on a wide-angle view, gives an image free from distortion, a decided advantage over many cheap wide-angle lenses.

PIN-HOLE PHOTOGRAPHY



COPY by Welshback and daylight, No. 6 pin-hole, 23 inches draw, $2\frac{3}{4}$ inches magnification.

PORTRAIT, No. 6 pin-hole, 9-inch draw (U. S. 180), $1\frac{1}{2}$ minutes exposure, bright sun, July, Sigma plate.

Although the bellows extension, the distance at which the pin-hole is placed from the plate, is not restricted by the size of hole used, each size of hole has a theoretical best distance at which it works with the maximum degree of sharpness. Authorities do not agree as to these distances, but the smaller table herewith gives these ideal distances for the different sizes, taken from the instructions accompanying the pin-hole lens. But remember, one can deviate from these distances a great deal without appreciable detriment to the result. I recently copied a portrait, using No. 6 hole at an extension of about twenty-five inches. A Welsbach light was used for the illumination. Despite the objection sometimes made that the small size of the pin-hole renders it difficult to see the image on the focusing screen, the image in this case was easily seen on the screen as soon as my eyes had become accustomed to the darkness under the focusing cloth. This table also gives the size of hole best adapted to different subjects, but again there is a very wide latitude in actual practice, the worker's individual tastes being the best guide. The smaller holes, those with the larger numbers, give the best definition, while increasing the size results in added softness until the condition of blur is reached. It is well to use the large or No. 3 hole in composing the subject on the focusing screen, although I have never experienced any difficulty in seeing the image with the smaller sizes when working outdoors. In strong light, more care must be exercised to exclude the daylight from under the focusing cloth.

CAMERA CRAFT

Convenience in this last can be obtained as follows: Measure around the four sides of the camera back, allowing a little extra for a seam and an easy fit. Cut off this length of rubber focusing cloth, making it about a foot wide. Make a hem to contain an elastic draw string along one long side. Sew the two ends of the piece together and insert the elastic band in the hem, adjusting its length so that the open end of the tube so formed will slip over the back of the camera with the elastic band holding it in place. The other end of the tube can be gathered somewhat and sewed to a wire frame shaped to fit the eyes, much as the eye-piece of a Graflex hood. This will be found a great improvement over a focusing cloth, particularly on windy days when the latter is somewhat trying to use. If one still has trouble in locating the image, it might be advisable to make a supplementary hole, one having a diameter of one-eighth to three-sixteenths of an inch, to be used for composing the view only. I have, under unfavorable conditions of light, removed the pin-hole lens and substituted for the moment an ordinary visiting card in which a hole had been pierced with a pencil, thus saving the day. The expedient gave good illumination, but very poor definition, this last of no importance, as the card was used only for composing the view. A good plan for achieving like results is to have the pin-hole lens and this large composing aperture mounted on opposite sides of a circular piece of wood. The center of this is pivoted to one side of the center of the lens board so as to permit the pin-hole lens and the large composing hole to be alternately swung into position

WATKIN'S N ^o	DIAMETRE INCHES	NEAREST NEEDLE N ^o	MOST SUITABLE DRAW-INCHES	ADAPTED FOR
12	0.013	13+	2½	COPYING & LANTERN SLIDES
10	0.016	12+	3½	INTERIORS - FINE DETAIL
8	0.020	10+	5	GENERAL LANDSCAPES PORTRAITS
6	0.027	7+	10	
4	0.040	4+	20	SOFTER DETAIL
3	0.053	1+	40	

DRAW IN INCHES	U.S. STOPS FOR PIN HOLE LENS					
	3	4	6	8	10	12
2½	3	6	14	25	39	56
2¾	4	8	17	30	47	68
3	5	9	20	36	56	81
3¼	6	11	24	42	66	95
3½	7	12	28	49	76	110
3¾	8	14	32	56	88	125
4	9	16	36	64	100	144
4¼	10	18	40	72	112	165
4½	11	20	45	81	126	180
4¾	13	23	50	90	140	200
5	14	25	56	100	156	225
5½	17	30	68	120	190	270
6	20	36	81	144	225	325
6½	24	42	95	170	260	380
7	28	49	110	195	310	440
7½	32	56	130	225	350	510
8	36	64	144	260	400	580
8½	40	72	162	290	450	650
9	45	80	180	320	510	730
9½	50	90	200	360	560	810
10	56	100	225	400	620	900
10½	62	110	250	440	690	990
11	68	120	275	480	760	1090
11½	74	130	300	530	830	1190
12½	81	144	325	580	900	1300
12½	88	156	350	630	980	1410
13	95	170	380	680	1060	1520
13½	100	180	410	730	1140	1640
14	110	195	440	780	1220	1760
14½	120	210	470	840	1300	
15	125	225	500	900	1400	
15½	135	240	540	960	1500	
16	145	255	570	1020	1600	
16½	155	270	610	1090		
17	165	290	650	1160		
17½	170	310	690	1230		
18	180	320	730	1300		
18½	195	340	770	1370		
19	205	360	810	1440		
19½	215	380	850	1520		
20	225	400	900	1600		
20½	235	420	950			
21	250	440	1000			
21½	260	460	1040			
22	270	480	1090			
22½	285	510	1140			
23	300	530	1190			

PIN-HOLE PHOTOGRAPHY



A COUNTRY ROADWAY—No. 6 pin-hole, 11 inches draw (U. S. 275), 110 seconds exposure, 2:30 p. m., bright sun, July.

over a small opening in the center of the lens board. Thus equipped, one can compose the subject with the large hole, turn the circular piece of wood half way around and be ready for the exposure.



A BERKSHIRE FARMHOUSE—No. 6 pin-hole, 9 inches draw (U. S. 189), 110 seconds exposure, 2:45 p. m., bright sun, July.

CAMERA CRAFT

A good, although sometimes bothersome, view-finder can be made by erecting a rectangular wire frame, the same size as the plate being used, directly over the lens board support, with its center a little above the top of the camera. Attached to the center of the camera back top, directly over the plane of the plate, is erected a piece of thin metal containing a small hole through which the view is observed. That part which comes within the confines of the wire frame, when the eye is placed close to the peep sight, will be the part included on the plate. The height of the peep sight or wire frame, or both, may have to be altered to make the view in the finder and that on the focusing glass coincide, but once adjusted, it will always be correct unless the pin-hole be raised or lowered independent of the wire frame. If the wire frame be attached to the part that raises and lowers with the front board, it will give a true indication of the view included on the plate.

In calculating the exposure, the first essential is the determination of the stop number. The second or larger table herewith will make that quite simple. With the view composed to one's satisfaction, measure the extension of the camera and find the distance in the first column; then follow along the line to the column headed with the number of the pin-hole being used, where the relative U. S. number will be found. One has then only to employ any good exposure meter and find the exposure for the given stop, and then give minutes in place of seconds or hours in place of minutes, whichever be indicated.

An example will no doubt make the matter clear. Let us suppose the subject is a large tree; time, eleven a. m. in June; bright sun; number six pin-hole with an extension of ten inches. Consulting the table we find that the number six pin-hole at ten inches draw equals stop 225. The meter indicates about four one-hundredths second, using stop U. S. 4. Our relative U. S. 225 is divided by U. S. 4, giving fifty-six, showing that stop 225 requires fifty-six times the exposure of stop 4. Fifty-six times four one-hundredths second is two and one-fourth seconds, which, we remember, must be changed to minutes, making the correct exposure two and one-fourth minutes.

For convenience in finding the draw each time, it is well to mark a scale in inches, and half inches on the camera bed where the lens support travels. Neglected, and the worker will find himself afield without a rule just when he wishes to avoid guessing at the amount of draw. The suggestion is prompted by sad experience. It might be well to add that when a pin-hole lens is used for copying, no enlarging factor is necessary in calculating the exposure, as when using a regular lens. Determine the exposure in the same way as for the example given above.

Developing and printing is conducted as in the case of regular exposures made through a lens. Prints made from pin-hole negatives lend themselves admirably to coloring with the Japanese Transparent Water Colors. Their softness harmonizes with the colors much better than the sharp definition of prints from negatives made with a lens.

The illustrations herewith were all made with a pin-hole, the data being given with each. They are given more as examples of pin-hole work than as examples of the full realization of what can be accomplished along artistic lines.

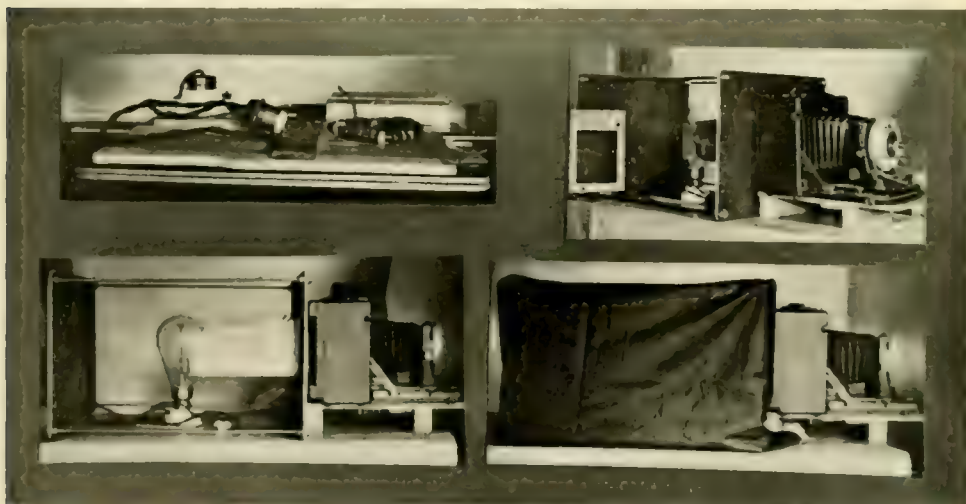
A Condenserless Enlarger

By J. G. Boyd



Some time ago the editor of CAMERA CRAFT advised that he would like a description of the condenser-less enlarging outfit used by the writer, intimating that some considerable interest in that subject was prevalent. An attempt to comply with the expressed wish of Mr. Clute constitutes the writer's sole excuse for this infliction.

Bread-winning tasks require that the writer must travel in excess of twenty-five thousand miles annually, hence it logically follows that, to be available, his



enlarging outfit necessarily must be of the knock-down type. While several existing very excellent devices have that characteristic, all such that came under the notice of the writer were of the daylight using order; hence not available for projection work, the only form which appealed. Essentially, its weight had to be a minimum, while its capacity had to be ample for making any old size of enlargement desired. In the final, finished result of this home made apparatus construction to be described, both these last suggested requirements have been satisfactorily met.

The essentials, as employed in this type, consist of an illuminant, a light-tight box, and a camera. The latter existed, the two former were improvised as illustrated in the accompanying illustrations. The first view shows the whole "shooting match," minus lamp, just as it was lifted from the sample trunk. The second shows the box assembled, the view being taken somewhat from the front in order to show the position of the camera, while the third is a view more from the rear so as to show the internal features. The last illustration is a view of the device ready for business.

CAMERA CRAFT

The ends of the lamp-house or body consist of two wooden veneers exactly like those employed in making perforated chair seats, only these are minus the holes. Perforated wood could be employed without evil result by merely gluing a piece of black muslin on the inner side to cover the holes. These ends are about eleven inches square; larger, perhaps, than would be required were there any reasonable means of ventilation incorporated in the design. Facilities for ventilation were purposely omitted, as they would have added to the bulk, and the heat radiated from the illuminant employed is negligible in a box of the dimensions herein given.

The two wooden ends are held apart by four brass-plated curtain rods about seven thirty-seconds of an inch in diameter, a product of a five and ten-cent store. A bicycle repair man cut them to a length of fourteen inches, run a thread on both ends of each, and supplied two nuts and the same number of thin washers for each of the eight threaded ends. When the two veneer ends are clamped on the rods between those nuts and washers, a very rigid structure results. The nuts are merely screwed up with the fingers.

In lieu of wood for covering the other four sides of the box, recourse is had to a cloth called Farmer's satin, of a goodly weight. The ordinary commercial width is sufficiently wide to hang over each wooden end and block off any light which might otherwise escape. The piece used should be of sufficient length to overlap three or four inches on top so as to make the chamber light tight.

Not only is this device condenserless, but it is, moreover, devoid of all ground glass. Diffusion, as accomplished, is economical in the matter of light. A good grade of ground glass absorbs, approximately, forty to sixty-five per cent of the total light, allowing only the remainder to pass through. With this device, diffusion of illumination is accomplished by means of a metal cone, as shown. In making the illustrations, the fact that the lamp end of the cone had slipped down a little was overlooked. Obviously it should have its small end directly opposite the lamp filament. This cone could be made of white cardboard for home use, but the particular one shown is made of polished tin. It is not soldered at the edges, but is merely tied in shape with twine, as so doing conserves bulk in packing. Obviously, a tinsmith could easily make one with hinged edges, and thus it will be, some day, as it is reasonably certain that the device, in its present satisfactory form, will not be further materially altered. The cone would be better were it made of thin sheet brass with its inner surface silver plated but not polished, preferably left with a matt or satin-finished surface. However, the cone, as used, is the best diffuser so far given a trial. It is so thoroughly efficient that ground glass is entirely unnecessary. It is also logically effective for the purpose. If one will but examine its shape, it can be seen that, the angle of reflection being always equal to the angle of incidence, the tapering sides of the cone, with the smaller end adjacent to the illuminant, form angles galore to reflect and re-reflect the light until the total light flux is "chopped up" finer than any flour ever ground. Moreover, those reflections are all in an advancing plane, always towards the negative, their natural goal, and where they are so greatly wanted.

A CONDENSERLESS ENLARGER

The dimensions of the cone are determined by the size of the ground-glass frame of the camera used; or, if that ground-glass frame is readily removable, then by the size of the camera back where the bellows is attached. A hole is made through the front of the lamp-house so that the cone can pass through and enter the camera body, thus conserving every ray of light. Its length need not be in excess of eight inches. At that length, using a one hundred-watt, clear glass bulb, Columbia Mazda lamp as the illuminant, a negative subjected to its heat rays for a whole hour will not be materially warmer than the hand, hence the emulsion on the negative is in no manner menaced.

The narrower end of each member of the cone is one inch less in width than the larger end. That is to say, suppose the width of the large end of any member is five inches, then the width of the narrower end would be one inch less, or four inches. That one inch of taper is to be secured by having a taper of one-half inch at both sides instead of an entire inch on one edge only. As



A CHILD PORTRAIT

BY F. MORRIS STEADMAN

this cone is the crux of the whole device, one should bestow some little care upon its construction. For a reflector the writer uses a piece of old tin tomato can—the baggage man cannot smash it. A brass or copper concave reflector, from three to five inches in diameter, silver plated, with the surface satin finished, not polished, would cut down the exposure time amazingly. Even a silvered concave glass reflector would do good work, although silvered mirrors are not in very good repute when illuminating problems are under consideration. It is a good idea to cut a semi-circle in both the top and bottom members of the cone in order that the lamp bulb may partially enter the cone and thereby save some light otherwise lost.

The illuminant employed is a Columbia Mazda, drawn wire, clear bulb, incandescent lamp, one hundred and ten volts. If the device is used with negatives not above $3\frac{1}{4} \times 5\frac{1}{2}$ inches in size, a sixty watt lamp would be entirely satisfactory. The latter unit, if care be bestowed in centering the equipment,

would afford a three or four diameter enlargement on bromide paper, with negatives of usual varied density, in from ten to sixty seconds, using a lens of six and one-half inches equivalent focus and an aperture of f-6.8. The lens with which the original negatives are made is always suitable for making enlargements therefrom. If the negative itself is not sharp, there is nothing in trying to make it so by stopping down the lens when enlarging from it, because an enlarger cannot create; it cannot do more than reproduce whatever the negative already contains. It is the writer's usual practice, when changing negatives, to turn back upon itself, on top of the lamp-house, the folded Farmer's satin cover and thus permit any heated air to pass off into the surrounding atmosphere.

While the time element involved in exposing enlargements, without condensers, exceeds materially the time involved when condensers are employed, their absence affords some compensating advantage. First, one has the original cost of the condensers, unless spent for something else, safely stored away. Second, in changing from one-sized negative to another, or from one degree of enlargement to another, no readjustment of the illuminant is necessary. Once this arrangement is adjusted for any given sized print, either larger or smaller ones can be made equally well with the same standardization of the light position; the reverse being the case with condensers.

It is a ridiculously simple matter to construct the device; the views are self-explanatory. The bulk is not over two inches in thickness, and the weight, minus lamp, is only two or three pounds.

Twelfth Pacific Northwest Convention

By J. T. Bertrand



The twelfth annual convention of the Photographers' Association of the Pacific Northwest was held at the Multnomah Hotel, Portland, September third to sixth, inclusive. It opened with an address of welcome by the Mayor, which was responded to by President Churchley of the Association. Routine business followed with demonstrations by Messrs. St. Clair and Jenkins, of the Ansco Company, and Mulender and Hoke, of the Eastman Kodak Company. The delegates attended the Orpheum in the evening, the guests of the local members. The next morning was occupied by an adjourned session, during which officers for the next year were elected. W. F. Woodward, of Woodward, Clark & Company, delivered an interesting and instructive talk, entitled "The Business Side of Photography." The afternoon was spent at "The Oaks," and in attending the School of Photography so well conducted by the manufacturers in attendance. The officers elected were as follows: President, L. A. Sprague, Bellingham; Vice-President, H. J. Ritter, La Grande, Oregon; Secretary-Treasurer, J. E. Ralston, Seattle; Vice-President for Oregon, D. P. Evans; for

SYSTEM IN PHOTOGRAPHY

Washington, Harriet Thrig; for Montana, H. Eckland, and for British Columbia, B. C. Calder.

There were exhibited almost a thousand selected pictures, some twenty-four grouped displays being from other points entered in competition for the Portland silver cup. This handsome trophy was won by the Genelli Studio, of Sioux City, Iowa. Mrs. F. Ernest Cramer, who was in attendance with Mr. Cramer, won the silver cup awarded in the ladies' nail-driving contest. As Mrs. Cramer is a Californian, it cannot be assumed that the ladies from the Houn' Dawg State are better nail drivers than those on the Pacific Coast. A resolution was passed at the last business session, inviting the National Association to make Portland its meeting place in 1915.

All in all, the convention was one of the best ever held by that energetic and enthusiastic body of photographers. The manufacturers made fine exhibits, the attendance was above the average, the interest displayed was unstinted and unflagging, while the entertainment and instruction presented were of such a high order that all the members were more than pleased. The new officers are all men of ability and enthusiasm and a continuation of the successful conventions for which this Association is noted, is assured.

STEREOSCOPIC DEPARTMENT

System in Photography

By C. L. Burgoyne



With Illustrations by the Author

There are few lines of work in which it pays better to be systematic than in photography, especially as regards the filing and care of negatives, and this seems particularly true in the case of stereoscopic negatives. I have been an amateur constantly in the game for many years, back to the days of wet plates only, and have invented or adopted several devices which have proven very convenient and time-saving.

I have various cameras, and my negatives, numbering thousands, are divided into the following groups: stereoscopic films, 5x7 plates, 4x5 plates, 4x5 films, and lantern slides.

When my stereoscopic films are developed and dried, and before making any prints, I write a number on the smooth side on the blank space between the two pictures, using ordinary pen and ink. Then, having envelopes a trifle

CAMERA CRAFT

larger than the film so as to easily contain ten, I use a rubber stamp to stamp a large number on the face of each envelope. For example: 130 on an envelope means that the last film therein is No. 1300; the ten in that envelope being numbered 1291, 1292, and so on, including 1300. As containers for these envelopes I have tin boxes, such as the stationers sell for keeping valuable papers, and of a size to take the envelopes standing on edge lengthwise. I convert the boxes into card indexes by having pieces of cardboard for guide cards, the edges extending above the envelopes, reading: 100, 200, and so on, one being placed at every tenth envelope of ten films each, making one hundred negatives in each compartment. These boxes are large enough to easily hold twelve hundred negatives. On the back of each envelope I place the numbers and names of the ten films enclosed. As the system embraces a blank book index corresponding with the envelopes, I can readily find any desired negative in a very short time. It is important that all negatives be returned to their proper places immediately after using them, but this is very easily done.

The prints show the number plainly between the two pictures. In mounting I turn the prints over and write the number in each of the two lower outer corners; and, after trimming, I mount with these numbers to the center, thus insuring the necessary reversing of the two pictures. Lastly, I set the number down on the back of the mount. I keep the printed and mounted stereo prints on shelves, each hundred together but not all in numerical order. I have given away a good many thousand prints, I hope, sometimes, to those who appreciate them, but I never sold a negative, print or slide, having possibly an absurd pride in being a strict amateur. In order to keep track of the stereos given away, I maintain a small alphabetical card index showing the names of the parties receiving prints and the numbers of the prints given each one, as a safeguard against giving duplicates. So much for the stereoscopic department.

On my 5x7 and my 4x5 plates I scratch, with a sharp instrument, a number in the lower left-hand corner, as near the bottom as possible. This is to identify



WATER FOWL—SPRING GROVE CEMETERY, CINCINNATI.

SYSTEM IN PHOTOGRAPHY

the negative, and as it is trimmed off, it does not matter that the figures are reversed on the prints. I have wooden and pasteboard boxes, each of a proper size to contain one hundred negatives, each being in a separate envelope with its number and name endorsed on the envelope; in addition, I have a book index of every negative. The boxes, containing one hundred each, are arranged on shelves, each box having a large number showing the hundred.

The 4x5 films are handled about the same way; that is, a number is written with pen and ink on the lower left-hand corner, and twenty-five films are filed in an envelope. Each envelope carries a large number; for instance, 3. 51-75, shows that the envelope contains film negatives numbered from 351 to 375 inclusive. Lantern slides are treated in the same way and here the mask offers an easy method of numbering and titling; an index being kept of these also. I do not attempt to keep in order my 5x7 and 4x5 prints, although I have many pasted in books. All this may look like a good deal of trouble to take, particularly with one's pastime, but in the end, with the system in operation, it is a great time-saver, not to speak of its value in preserving one's work. Of course, the system must be kept up as new work is produced. The advantage lies in being able to lay one's hand immediately on any negative he owns.

As to photographic literature, I am a subscriber to, or buyer of, eighteen periodicals, two-thirds at least devoted exclusively to the subject of photography, the others having a photographic department. I have many text-books, annuals, and catalogues, the accumulation of years. Each and every one of these has a large gummed or rubber stamp label on the outside front cover, and all are arranged in shelves in numerical order.

I am a very busy man, with the management of large interests, and rely on photography, outdoor athletics of various kinds, motoring, scientific kite-flying, theater-going, and social affairs, all as recreations to counteract the wear and tear of business. I attribute my almost entire immunity from sickness, weakness, or fatigue to these recreations, also to availing myself of every opportunity



A QUIET STREAM—A STRIP OF WOOD

CAMERA CRAFT

for outdoor exercise, and to sleeping out of doors on a screened porch about eight or nine months out of the year. I trust this personal digression will be pardoned. It is quite impossible to thoroughly read all the photographic literature which comes one's way. However, I have a large, ledger-like index in which thousands of topics from all these books and magazines are indexed and cross-indexed by book and page; for instance:

Development—of plates and films compared.....321-91.

Plates and films—development compared.....321-91.

Films and plates—development compared.....321-91.

Of course, a single article may furnish a number of topics; some articles I take the time to read thoroughly, but usually simply glance through to get the points, and index them where I can find them when I want them. My index refers to a great many articles on all branches of photography. This index converts what would otherwise be a great mass of unavailable matter into a live reference library. A person taking a few magazines could readily keep up such an index.

I fear that my profuse use of the pronoun has already offended against good taste, but in closing I will add that I have an improvised private studio with almost professional conditions, a very complete dark-room, although converted to tanks (for films, at any rate), a good magic lantern with facilities to show an eight or nine-foot picture, enlarging and copying facilities, also an original system of daylight "automatic" printing. I have a hundred or more 5x7 and 4x5 printing frames; these are "loaded" and arranged on large frames back a little distance from north windows, and here they work out their own salvation—or otherwise. A few minutes morning or evening suffice to look them over and change them; they rarely over-print, and I fancy that the slow printing gives better average results than when the printing is done in bright light or direct sunlight.



SCENE ON SARANAC LAKE—ADIRONDAKS.
470

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

AN IMPROVISED FOCUSING SCREEN: Paste a piece of plain white oiled paper or, better still, a piece of fine white tissue paper, across the camera back on the inside where the ground surface of the glass was before being broken, and it will be found to answer until a regular ground-glass focusing screen can be fitted.—James L. Vaughan, New York.

HANDLING FILM PACKS: The sketch herewith shows a method of handling cut films or film packs, in tank development, without the necessity of a kit. A piece of cardboard, the length of the film, is bent lengthwise to the shape of the letter "M," and then immersed in melted paraffine until thoroughly saturated. When cool it is practically solution-proof, and, clipping the film as shown and the whole held in place by a rubber band, the films can be safely immersed in a tank or jar for development. If the films are rather small, they may be laid side by side in a tray. The card and rubber band may be left in position during fixing and part of the washing, but should be removed during the latter operation to allow the hypo to be washed from that part of the back protected by the edges of the card and the rubber band.—A. E. Burns, Oregon.

CLEANING OLD NEGATIVES: I use a rack made out of an old washboard, somewhat crude, but the metal part is corrugated just right to hold my 5x7 plates in pairs about a quarter of an inch apart. This I fill with plates and place in a galvanized pail, covering the plates with lukewarm or hot water, to each gallon of which has been added about one or two tablespoonfuls of Old Dutch Cleanser or three tablespoonfuls of Gold Dust washing powder. They are allowed to stand overnight in this bath and in the morning I remove them and clean, the film having during that time slipped off the glass to the bottom of the pail. I find that occasionally there is one that does not rinse off clean, but those I do not bother with, throwing them away. The chief advantage of my plan is the avoidance of any poisonous chemical or a strong acid or lye.—Edward D. Davison, New York.

A PIN-HOLE CAMERA: Pin hole work is interesting, and, with the arrangement I shall describe, one can secure a focal length in excess of that obtained with the lens, even after the farthest point of extension of bellows has been

reached. My camera is a No. 3 Folding Pocket Kodak with an actual focal capacity of five inches. By putting on my pin-hole attachment, after removing the lens, I have a first-class pin-hole camera with a focal length of six inches or a trifle more. Instead of employing the usual thin, flat pin-hole attachment, I have had one constructed in the form of a cap. It was made out of a piece of brass tubing, with a sheet of very thin brass carrying the pin-hole, soldered over the end. With the lens removed and the useless diaphragm set at its largest aperture, the pin-hole can be placed some distance in advance of the opening so formed before any of the rays passing through the pin-hole are cut off from the plate or film. At a certain point in advance of the lens diaphragm some of the image-forming rays will be obstructed by the periphery of the diaphragm, so that the cap-formed pin-hole attachment can only be a trifle over an inch in length. This form of pin-hole is easily attached to the front board of the camera by means of two rubber bands.—Nicholas Tesh, New York.

SIMPLE BUT IMPORTANT: An amateur of my acquaintance complained of foggy and light-struck plates. He said that he had done everything in his power to prevent this and asked that I come over and watch him at his work and see if I could detect the cause. So one afternoon I called at his house, where he took me up to his dark-room while he loaded his plate holders, as he wanted me to see everything that he did. All went well until, after going outdoors to take the picture, he went to slip the slide in after the plate had been exposed; and right there I found out the cause of his trouble. Instead of returning it to the holder with the edge held straight, as he should have done, he was putting the corner in first and then bringing it up straight as he pushed in the slide.

Just inside the end of the holder is a long, narrow strip hinged at one side like a door. If the end of the slide is pushed squarely past this trap or door, it admits no light. If one corner is stuck through this trap, the action is much the same as sticking one's foot in a door and allowing the light to pass through the opening not filled by the foot. This admits a flood of light on both sides of the corner of the slide; as, by inserting the corner first one pushes open the door-like trap in the holder, thus permitting light to come through the open space where it is not blocked by the slide. This was the only cause of my friends fogged plates, that I could see, and I followed him through the whole process of making the picture. Starting the slide in straight at once remedied his trouble. The illustrations herewith explain his mistake more clearly than can words.—F. L. Baldwin, Massachusetts.



CAMERA CRAFT

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Doing Something Different

The professional photographer cannot be blamed for an inclination to produce work of a kind and character that is open to the possible objection that it rarely reveals any attempt to depart from the indicated lines. He knows what the public demands and tries to supply it with such consistency and skill as he can command. His so doing is not to be taken as an indication of his own appreciation of merit that may lie in a departure from the regular thing. He is making portraits, and, at this period, it is hard to find anything that can be considered a departure that is not at the same time open to serious objections from those of his customers that want good, straightforward portraiture. In fact, the standards of portraiture have been pretty well established by the painters; the professional portrait photographer has little other choice than to approach, as near as possible, the high standards set by the portrait painters. But with the amateur, the free lance in photography, all is different. He is not even tied to one class of subjects, much less any given style of treatment. True, the advanced workers seem to realize and avail themselves of this fact, and their unanimity in so doing almost suggests that therein lies, perhaps, the secret of at least a portion of their success. The average amateur seems to labor under the impression that landscapes are the sole productions of which his camera is capable. Occasionally he ventures into the realm of portraiture, fails through lack of appreciation of the special requirements for success in that particular line, and gives it up as practically out of his power because he does not possess a skylight or a portrait lens. His productions are, almost without an exception, landscapes and kindred subjects. Landscapes are easy, ordinary landscapes, the kind classified as "views," but to achieve distinction is hard, simply because landscapes as subjects are so persistently employed. If the worker will but stop and realize how much less is the competition his pictures will have if a different class of subjects be selected, he will appreciate the advantage of resigning landscapes to others and selecting a class of subjects less overworked. He will certainly stand a much better chance of getting himself into the advanced workers' class, or rather, into the class of workers whose productions are known outside of his own immediate circle of friends. The specialist always has the advantage, and particularly is such the case when the specialty is one that has the interest of so small a number of his fellow workers.

The advisability of selecting one of the less hackneyed class of subjects is

particularly evident at this season when the landscape man is prone to feel that his season is about over, when the time is at hand for the camera to be placed aside until summer once more brings full foliage and its opportunities. And the difficulties, with any special class of subjects, are almost entirely imaginary. They are no greater, as a rule, than is the case with the popular landscapes. And the opportunities are as generously distributed if not more so. Let us take night scenes as an example. Seasons do not prevent the pursuit of one's photographic hobby in that direction. The humble porch of the country home, the brightly illuminated city street, both extremes, with innumerable examples between, all furnish excellent subjects for careful treatment. Even flowers, a class of subjects supposed to be particularly dependent upon the seasons, are in reality much less so than are landscapes. Groups of a few blossoms are available at all seasons of the year. Animals, particularly the domesticated kinds, make fine subjects and pictures of them are always interesting. Think of the interest that would attach to a collection of a few hundred prints made by an amateur whose location in the rural district made it possible for him to indulge a fondness for figures and groupings that portrayed typical scenes about the homes and farms of his neighbors. Compare such a series with the average collection of "views" that the amateur shows as a result of his first few years' efforts.

And do not suppose for a moment that the selection of a special line of work means less opportunity for the gratification of one's desires to expose and develop plates. It has been shown that seasons do not limit one's activity. One cannot make landscapes indoors, one is often induced to postpone a trip afield in search of them by threatening rain, too high wind, or even excessive heat. In selecting other subjects for our cameras, we are simply exchanging one set of limitations for another. True, we may be inviting a few new difficulties, but they are mostly those due to a lack of experience, and accordingly easily overcome.

I do not wish to be understood as condemning ordinary landscapes as subjects for the photographer. They are suitable, satisfying if well done, and should have some attention from every camera user. But, on the other hand, they should not be allowed to dominate. The worker should select some other class of subjects and work with them until some degree of proficiency has been secured. Once he has done this, he will find his interest in photography increase as his productions multiply and his experience grows, his work will have a stronger appeal to others, and, all in all, his gain will be great.

Mr. and Mrs. Cramer On the Coast

F. Ernest Cramer and his charming wife, a former San Franciscan, are making a short stay in this city at this writing, the middle of September. They came down from Portland, where the Northwest Convention was visited. Both Mr. and Mrs. Cramer have a wide circle of friends in this city and their time has been so fully occupied that their only regret has been that it is impossible for them to do their hearty welcome the justice that a more protracted stay would permit.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Color Work in Oil and Bromoil

The two interesting addresses by Haldane Macfall before the London Camera Club, on Color Work, have given a good send-off to this new advance in picture making by photography. No doubt many workers will be anxious to take up these delightful processes which, Mr. Macfall holds, are full of possibilities hardly dreamt of as yet, an opinion which will be shared by all who are unprejudiced.

It has been demonstrated so far that it is possible to produce pictures which are a delight to the eye, and more or less artistic, according to the skill of the worker—chiefly in the blending and harmonious rendering of color—and with more experience it is fair to assume that finer effects than any yet shown will soon be arrived at.

The everlasting discussion—which seems to get no farther—as to “What is Photography?” or “Is Photography Art?” may well be laid aside for a time, till it is possible to see what can be done; and, after all, it seems to me quite illogical to argue that oil printing in monochrome may be passed—as it has been in the exhibitions for years past—as photography, whereas in multi-color it goes beyond the range. That these views have been held I know from experience, and it is time that photographers should be allowed the same absolute freedom in expression that is granted to painters.

I propose to set down, for those who contemplate taking up color work, some points in the experience I have gained from three or four years devoted entirely to color prints, in the hope that thereby some pitfalls may be avoided and the path smoothed.

The negative best suited for this purpose is one rather strong in contrasts, and the enlargement should be the same, and fully developed to limit of reduction. This does not mean, of course, one with clogged shadows, but with rather marked gradation; this allows of more latitude and control in inking, and the power to produce bold and striking

effects. But one must be guided by the effect arrived at—it would be obviously absurd, for instance, to work on an enlargement of this kind if a tender morning subject were being treated.

Bleaching and drying is done in precisely the same way as for monochrome, but it is not necessary to bleach the image right away; indeed, it is a distinct advantage to be able to see the image clearly when commencing to ink. Both Sinclair's and Williams' bleachers are excellent, and dispense with the acid bath. The latter gives a fair result with a print which is rather weak. Or one can make up one's own bleacher, which is, of course, cheaper. After bleaching, the print is put through a weak bath of hypo, then rinsed and dried in the usual way.

Before inking, the dried print is soaked for one to two hours in plain water until relief is obtained; if this is difficult, a 2½ per cent bath of sulphuric acid will help, or a bath of water heated up to eighty or ninety degrees. Both plans are best avoided if possible, as they tend to disintegrate slightly the gelatine, and as a print in color takes a good deal longer to ink up, it is desirable to have it in as good a condition as possible, to prevent blistering from incessant brush action.

In the first stage of inking up, use the primaries—yellow, blue, and red only—and get the picture out in these, keeping it as pure as possible; mix a little white with the blue if too strong in tone. Then proceed with the secondary colors—green, purple, orange—still keeping all rich and pure; put the colors on in patches, using always a large brush, and blend and mix them till they give broken tints. Burnt umber is a very useful color, especially for warming greens, or mixed with a tiny quantity of black for the trunks, etc. A beautiful warm grey can be made with this color; a little blue and white for a cool grey black and white, and a still colder grey is obtained by adding a small quantity of blue. It is best

CAMERA CRAFT

to test the color either on the print itself, or on a piece of spare paper, and then modify the print as required.

Where a subject is such as a grey day, a good plan is to mix up a medium tint of this color, and go all over the print with it, modifying it afterwards with transparent colors, and finishing up with sepia or black for the deepest shadows. Black, however, should be used very sparingly, as, although very seductive and powerful, it soon destroys brilliancy. As the print nears completion place it on an easel, or stand it up, and look at it from a suitable distance. It will almost invariably be found that certain high lights, such as leaves of trees that have caught the light, bits of sky through the trees, patches of light on a road, etc., are too prominent, and irritate the eye; they can be subdued with color made to match the surroundings, and diluted with medium. High lights that have lost their brilliancy where it is required can be lightened with a suitable size brush moistened in benzine, with the excess removed and a hopping action. Shadows that are clogged may be cleared in same way, using a larger brush.

Leave the print till quite dry, after which it is easy to modify objectionable features or tones, and increase the richness by adding carefully transparent color charged with medium; a piece of ink-eraser, sharpened to a point, is useful for increasing high lights.

Whether these liberties are legitimate must always be a debatable question, but, personally, I see no objection, so long as they lead to a good result, and the end justifies the means. No one questions a painter's methods in picture making; he is allowed absolute freedom, and there is no sound reason why the photographer should be cramped and fettered.

I would strongly recommend that a rough outline sketch in pencil be made when the negative is taken, and notes of the scheme of color and general balance of light and shade also be added. To have this before one when beginning to ink up is an immense help; one knows at once how to set to work without hesitation or experimenting, and one is thus able to visualise the scene.—J. L. Tucker, in *Amateur Photographer*.

A New Intensifier

M. J. Desaline reports a new intensifier that offers a high grade of equal intensifica-

tion with little chance of staining or change. The negative is first bleached in a solution consisting of:

Cupric chloride.....	25 grams
Hydrochloric acid.....	5 "
Water	1000 "

or:

Sulphate of copper.....	30 grams
Hydrochloric acid.....	20 "
Water	1000 "

It is next washed and then blackened by immersing in a solution of sodium stannite made by neutralizing a ten-per-cent. solution of stannous chloride solution of caustic soda 40 degrees Beaume. This should be made up only when required. The intensification can be used alike for paper or plates and gives a warm brown tone. According to the observations of another worker, M. L. P. Clere, it increases the density from one to one and sixty-five one hundredths.

Reproduction of Diagrams and Line Drawings

A method that may have great practical value for cheap and rapid reproduction of the above class of work is described by M. E. Constet, in the *Photo Review*. It is based on a process by H. Claude, and is, briefly as follows: A sheet of zinc is leveled and evenly flowed with a twenty-eight per cent solution of gelatine containing one per cent of ferrous sulphate. This can be prepared by soaking one ounce of gelatine in four ounces of water and then dissolving by heat; to which add twenty-four grains of the ferrous sulphate in one ounce of water, and mix. Allow it to cool and thoroughly set. Make a blue print of the desired subject, place it, unwashed and dry, on the gelatine plate, and lightly press it down with a roller squeegee. Then strip, and ink the plate with collotype ink by means of an inking roller. Copies can be made continuously by alternate inking and stripping.

Toning Silver Prints With Some of the Rarer Metals

Although gold and platinum are almost the only metals ever mentioned in connection with the toning of silver prints, there are quite a number of others which can be used, and which, were it not for their rarity and consequent cost, would very likely come into practical employment. A few of these are given below, together with the formulæ that

A PHOTOGRAPHIC DIGEST

have been suggested for their employment. As these are, in most cases, designed for prints on plain silver paper, it may happen that they are not quite the best for printing-out paper, and that some experimental modifications might be needed.

Bismuth nitrate may be made the basis of a toning bath which will give prints of a chestnut brown color, for which purpose it was suggested fifty years ago by Balsamo. The formula published was:

Bismuth acid nitrate.....	10 grains
Acetic acid	50 minims
Water to	2 ounces

Iridium is a metal of the platinum group, which can be employed to give silver prints a violet color. The commercial salt is potassio-iridium chloride, which is used in the following solution:

Sodium tartrate (neutral).....	1.5 grains
Potassio-iridium chloride	15 grains
Water to	2 ounces

As iridium is even more expensive than platinum, and, owing to its hardness, is in considerable demand for tipping objects which have to stand hard wear, such as the nibs of fountain pens, this is likely to be a costly method.

Palladium is another metal of the same class, which is capable of giving fine brown and sepia tones. The salt used is palladium chloride, which can be purchased in a solution of a strength of ten grains to the ounce, the price of the ounce, in Messrs. Hopkin and Williams' list, being 3s. The toning bath consists of:

Palladium chloride solution	30 minims
Citric acid	20 grains
Common salt	30 grains
Water	10 ounces

When any of these baths are used with commercial printing-out paper there are two precautions which it would always be as well to take:

The first is to immerse the prints in a solution of, say, half an ounce of common salt to the pint of water for a minute or two, and to wash them in several changes of water before putting them in the toning bath. After toning they should be rinsed and placed for a minute or two in a solution of half an ounce of washing soda to the quart of water, and may then be rinsed and fixed. The former prevents carrying soluble salts of silver into the toning bath, and the latter is a guar-

antee against any acidity due to the toning solution being communicated to the hypo, where it might lead to sulphur toning and want of permanence.

Washing Large Negatives

It happens frequently, writes T. Close in *Photography*, that I have a dozen whole-plate negatives to wash at a time, and the following arrangement, which I have had in use since the beginning of the year, has proved to be in practice a very great convenience. Over the sink I have fixed up an arm which carries a pulley, through which passes a cord. At one end of the cord is a hook, and at the other a cardboard box of shots, which acts as a counterweight. The washer with the negatives in a rack stands in the sink below the pulley. After the negatives have been about three minutes in the water, the rack is raised by means of the cord and hook until it is quite clear of the tank, and is left there draining for a minute or two. The water is then changed, and the plates lowered into it again. It is much less trouble than any other efficient system of washing I have ever tried. The hook, I should mention, is attached to wires fastened to the rack, so that the latter hangs with one corner about an inch below any of the others, which makes draining more complete.

Rapid Drying of Plates and Stripping

Some time ago I gave an account of the Lumiere method of rapidly drying plates by immersing them for five minutes in a saturated solution of potassium carbonate, after which they may be rubbed dry with a piece of cloth and immediately printed from. Messrs. Lumiere and Leyewitz, in describing this method, stated that analysis showed a very slight retention of the salt in the film, and suggested that after printing it might be as well to soak the plate in water and let it dry in the usual manner. My own experience with the method has revealed a very important reason for so doing, not mentioned by the discoverers. I most successfully dried a number of plates in this way, but forgot to soak them after use, putting them away with my other negatives. Two weeks later I had occasion to use a negative and was astonished to find a number of clear pieces of glass, the gelatine film being partially detached, flat, and supple. I printed these

them as from ordinary films. This experience suggests the possibility of using the potassium carbonate for the express purpose of detaching films, for making reversed negatives, etc.

H. D'ARCY POWER.

Paper For Exposure Meters

Ordinarily, bromide paper is placed in a ten per cent solution of sodium nitrate for ten minutes, then dried rapidly in the dark. This paper can also be used with negatives for printing-out purposes. The above paper is more sensitive to the blue-violet end of the spectrum. If a paper is wanted having a greater range of sensitiveness, it should be prepared, according to Anderson, as follows: Photographic raw stock is put in a bath of 6.10 gms. (2 ozs.) of potassium bromide dissolved in 1,000 c.c. (33 ozs.) of water for six minutes. The paper is then hung up to dry. The dried paper is sensitised by floating on a twelve per cent silver nitrate solution for two minutes by ruby light. The paper is now washed to remove all soluble salts. At this stage the paper is not very sensitive nor the darkening very strong when exposed to light. The washed paper is now placed for five minutes in a solution containing 6.0 gms. (90 grains) of sodium nitrate dissolved in 200 c.c. (7 ozs.) of water and 8 c.c. (2 drams) of an alcoholic solution of Rhodamine B 1.200 and dried in the dark. This paper is sensitive as far as the yellow D line.—J. M. Eder, in *Amateur Photography*.

An Improved Bromoil Bleach

In a recent communication to the Manchester section of the Society of Chemical Industry, W. F. A. Ermen gave a general resume of the development of the bromoil process and concluded with a modification that offers important advantages. Speaking of the prevalent bleach, he says:

The color of the residual image is liable to interfere seriously with the tone of the ink applied above it; in fact, it often destroys all the beauty of the picture. In order to avoid this disturbing element I tried to find a mode of procedure that would yield a satisfactory gelatine surface without leaving a colored residual image. My investigations pointed to the fact that the ferricyanide was the cause of the trouble, and, after many trials, I have succeeded in

finding a satisfactory substitute in the shape of cupric bromide.

The bromide print is immersed in a solution containing fifty grammes of cupric bromide and one gramme of potassium bichromate per litre. The image bleaches rapidly to a pale sage green. After rinsing in water, the paper is treated for three minutes with a ten per cent solution of sodium thiosulphate and well washed. The image at this stage is pale greenish grey, and if this color is not considered detrimental, pigmenting may be undertaken at once. If it is desirable to remove all trace of color from the image, the print is well washed, and then immersed in a solution containing fifty cubic centimeters of sulphuric acid and two grammes of thiourea per litre. After the acid has been washed out, the print is laid face upwards on several sheets of wet blotting paper, surface dried, and inked up in the usual manner.

A New Method of Sulphide Toning

Some time ago a writer to the *British Journal of Photography* described his success in obtaining good sepia prints by immersing bromides directly in a bath of liver of sulphur, and the editor vouched for the excellence of the tones. There has recently appeared in the same publication two letters on the subject that are worthy of reproduction and consideration.

Gentlemen: It has been well known for many years, twenty or more, that solutions of an alkaline polysulphide will tone a bromide print, when that is simply immersed therein. It has also been known that the action of such solutions is exceedingly uncertain. Personally, I think the chief factor in determining the time of toning is the exact nature of the silver image. The subject was fairly recently discussed in your pages in connection with the sodium sulphide-ammonium persulphate method of toning advocated by a German worker. As I pointed out at the time, the German method amounts simply to polysulphide toning, and, like all varieties of this, is quite unreliable. At this time I gave what I believe to be the only good single solution method of sulphuretting bromide prints, viz., immersion in a solution of sulphuretted hydrogen and potassium ferricyanide.

Mr. Woodman's experiment with potassium

A PHOTOGRAPHIC DIGEST

permanganate, by means of which he impregnated the print with manganese dioxide (the whole print goes brown), is interesting, and will, I think, repay further and more exact investigation. Yours, etc.,

R. E. BLAKE SMITH.

Gentlemen: This method of toning bromide prints has for many years been a trade secret of several commercial houses, its cheapness, simplicity, and permanence of tone standing it in good stead. The usual method of working is as follows: After leaving the hypo the prints are slightly washed and immersed in a hardening bath for five minutes. This is necessary owing to the alkaline nature of the toning bath, which, although weak, has a tendency to soften the film. The following is a good hardening bath; it tends to produce the purple brown tone so much sought after, and may be used several times:

Alum	1 ounce
Chrome alum	½ ounce
Water	20 ounces

The prints are then washed for at least five minutes; this is necessary, as the presence of alum or any acid may cause unsatisfactory results. After washing, transfer to toning bath:

Liver of sulphur.....	1 drachm
Water	1 pint
Ammonia	a few drops

Toning is best done in a water bath at about half boiling point, when the change takes place almost immediately. The final wash, of course, is necessary. For the convenience of those interested I give the following notes:

Liver of sulphur, or potassium sulphurata, is not a single definite compound, but a mixture of several. When fresh and carefully prepared, it is liver-colored, hence its name. It is made by fusing together two parts carbonate of potassium with one part of sulphur, heated gradually until it ceases to effervesce, the resulting mass is poured on a slab and quickly bottled. It rapidly absorbs oxygen from the air, resulting in a useless, dirty-white mass, in the form of sulphite, sulphate, and hyposulphite, the hypo being further decomposed into sulphate and sulphide. For that reason the unoxysided portion must be used to obtain best results, and the bottle must be kept well corked.

A. W. VERO

Physical Action of Alkalies on Gelatine

The Messrs. Lumiere and Leyewitz have described before the Societe Francaise de Photographie a number of experiments on this subject, from which they draw the following conclusions:

The caustic alkalies, in watery solution, destroy gelatine completely and produce their solvent action more quickly as the strength is increased and the temperature raised. The three caustic alkalies give practically the same results when the solutions are made up of strengths proportional to their molecular weights.

Aqueous solutions of ammonia, either strong or weak, do not affect gelatine in the cold, even on long action. There is produced only swelling and a notable degree of enlargement, especially in dilute solutions. In the heat gelatine liquefies in other hand have a tendency to prevent its solution both in the cold and heat. This they do the more energetically as the solutions are stronger. With a suitable strength of solution the gelatine withstands a temperature of 212 degrees Fahrenheit.

The practical conclusion from the experiments is that the alkaline carbonates and ammonia may be used without fear of attack of the gelatine since their action is to prevent rather than to favor solution of the gelatine. On the other hand, the caustic alkalies are to be avoided, and may be replaced by tribasic phosphate, which substance, with certain developers, acts as a true caustic alkali.

Mounting Prints Behind Glass

Writing on this subject in *Photography*, W. Mainwaring says: It is in accordance with what has been called "the natural cussedness of inanimate objects" that when p.o.p. prints are squeegeed to plate glass with a view to strip them when dry and so obtain a high gloss, the prints very frequently decline to leave the glass at all, whereas if we were to squeegee them to the glass with the idea of leaving them there permanently, viewing them through it, they are sure on drying to strip partially or wholly, and so nullify our efforts.

It is a very good method of displaying a silver print to mount it on glass, and the operation is not at all a difficult one. The print, after fixing and washing, should be

hardened in formalin in the usual way, and dried. Fifty grains of gelatine should be allowed to soak in cold water till quite soft and then be melted by heat. Boiling water should be added to make a total bulk of half a pint, and the liquid must be strained through a couple of folds of cambric into a dish, previously warmed with hot water.

Into this dish the piece of glass, after thorough cleaning, is placed, and the print after soaking for a minute or two in cold water is immersed in the warm gelatine solution face downwards, adjusted on the glass, and the two are removed together. The print is lightly squeegeed into contact, taking care to expel any air bells, and is put away to get dry. When dry, the front of the glass is cleaned and the picture mounted in any way that is fancied.

NOTE.—So far as solio is concerned, I found some years ago that if the prints be not dried after fixing, but allowed to soak over night in the wash water, not too cold, they can then be squeegeed on to the glass and will stick permanently without the intervention of gelatine. They must not be treated with formalin.

(H. D'A. P.)

A Substitute For Sulphide

In the current number of *Photographische Korrespondenz*, E. Valenta gives the formulæ and working directions for the production of brown-toned bromide prints by a method which avoids the use of soda sulphide. The prints are bleached in the customary mixture of potass ferricyanide and bromide, and after a brief washing are "toned" in a re-developer, made up with pyrocatechin as the basis and containing Schlippe's salt in addition. The formulæ for this latter is as follows:

- A: Pyrocatechin 20 grammes
 Soda sulphite crystals... 100 grammes
 Water 1,000 cubic cent.
- B: Soda carbonate crystals. 200 grammes
 Water 1,000 cubic cent.

Two parts of solution A are mixed with one part of B, and addition made, according to the tone required, either sepia or brown, of two to four cubic centimeters of ten per cent Schlippe's salt solution to every one hundred cubic centimeters of the working developer.

Edison Home Kinetoscope

Burke & James, Inc., of Chicago, inform us that they have been appointed wholesale distributors for the Edison Home Kinetoscope. It is their intention in handling this article to follow their established policy of not selling to consumers but of doing everything possible to create a demand through dealers in photographic supplies. Our understanding is that these machines are liable to get into the hands of the phonograph dealers unless the photographic supply dealers take immediate advantage of the opportunity of securing the local agency for their community.

The projection business is one more closely related to photographic supplies than to musical instruments. It is a line which cannot but help to increase in volume and it will therefore be an unquestioned stepping stone to a larger and more profitable business for photographic supply dealers.

Not since the invention of the phonograph has such a step in home entertainment been taken as is represented in the latest invention of Mr. Edison. The Home Kinetoscope is a perfect moving picture machine at a price within the reach of the average American family. The initial cost is practically the only one, as the films can be exchanged as often as desired for a nominal sum. The ideal combination of entertainment and education for every member of the family is fully realized in the new Edison machine. Eighty feet of the film used on this machine equals one thousand feet of that used in the moving picture theatres. This is because there are three rows of pictures on each film, which are run off successively. The machine is made to conform to the Edison Laboratory standards and is so simple to operate that a child will find no difficulty in projecting pictures without any possible danger of accident, as the film is absolutely non-inflammable.

The machine is adapted for either electricity or acetylene gas. In addition to the moving pictures it projects a special lantern slide which is about one twentieth the size of the regular slide. There are an immense variety of film subjects and lantern slides to choose from.

Dealers and others interested will do well to apply to Burke & James, Inc., 240-285 East Ontario Street, Chicago.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Bartolozzi Reds on Bromide Prints

An Oregon correspondent asks for the formula below, which originally appeared in the *Photographic Notes* some years ago:

When the print is finished, well fixed, and thoroughly washed, place it in a fifteen per cent solution of copper bichloride. The image will completely disappear, because the reduced silver is transient chloride. Well wash to eliminate every trace of the copper bichloride, and then immerse the print for a few minutes in a solution of potassium ferrocyanide (yellow prussiate); wash well in clear water, and again immerse in a two per cent solution of copper bichloride. The image will immediately reappear in a beautiful shade of red. If the whites are not clear, it is because the washing has not been carefully done.

In Making Portrait Negatives

Years ago an old professional gave me a lesson in portraiture. From samples sent me recently I feel that I can repeat a part of his instructions with every assurance that such will be of benefit to some of my readers. The great mistake nearly all amateurs make in this class of work is in over-developing. My old professional friend laid down the golden rule of portrait work when he said: "Time for the shadows, but develop for the high lights." I knew all about developing in those days. More than I do now. Just the same, I had to try several times before I developed one that suited my instructor. Even then I had to exercise some little self-denial to keep from the common tendency of letting it go just a little farther to make sure. My instructor explained it in this wise: "Your lighting and timing must be right. You cannot get in developing something you did not see in the making of the exposure. Development only brings out what you saw, it does not add to it. If you timed rightly you will have at least three degrees of high lights. If you stop development when the highest of high lights are through the emulsion you

will secure gradation. If you continue to develop you simply force the second degree of high lights through to the glass without in the least adding to the intensity of the first or highest lights which were already through to the glass. Continuing development, the third set of high lights are pushed through, making all three degrees of equal printing opacity and all gradation is lost. Do not humbug yourself that you are increasing the detail in the shadows. The place to do that is before the camera. If you have failed to secure it there, do not attempt to secure it at such high cost as the loss of all gradation in the lights. You will pay too high a price." These may not be the exact words, but it is near enough to suit the purpose. It is good advice, I might say the best of advice, no matter just how it is worded. It is the difference between the cast-iron negatives of the novice and the well-modulated ones of the better worker. Take the reproductions of good portrait work shown in the magazines as prize winners at the conventions and see if they do not seem to conform to this rule.

Those Negative Envelopes

You can buy negative preservers at the stock houses, but you can also make a pretty good article yourself if you will but use a little time and trouble. I caught a friend of mine making some the other evening and he certainly knew how to go about the work. Rather, he knew how to get the juvenile part of the family interested in doing it right. This amateur friend is above any suspicion of being penurious, and for that reason I had no hesitation in asking all about it. I learned that the purchased article was of just generous enough proportions to preclude any possibility of the negatives enclosed in them ever being placed back in the plate boxes. I knew this from sad experience myself. I like to use plate boxes to store my negatives, and yet I wish each in its own envelope. With the home-made article, this can be done and they do not

have to be such a tight fit either. This friend of mine first secures a supply of good, glazed manila wrapping paper in several colors. The paper dealer cuts this roughly to size, as determined by a pattern made from one of the regular articles. With a sharp knife, the irregular outline due to the flap that is folded over to form the bottom, is cut out of several sheets at once. These are placed one at a time on a board "mould" and creased. This mould is simply a piece of board with a strip at one end to serve as a guide, against which one edge of the sheet is placed and held with the left hand. With the other hand creases are made in the paper by drawing a bit of thin wood with a smooth edge, like the blade of a paper cutter, only thicker, across the paper at the proper places to form the folds at the sides and bottom of the envelope. This is easily done, as the mould is grooved with shallow trough-shaped cuts in the right positions. The smooth edge of the stick follows the grooves beneath the paper. A bunch of the cut and creased sheets are "run" to one side so that but a small margin of each shows just past the sheet above it much as the leaves of a large book appear when opened. This allows of a number being pasted at once, each sheet only receiving a narrow strip of paste on the exposed portion. They are then rapidly folded on that side and the operation repeated for the bottom flap. The youngsters in this particular family soon became quite proficient. They found no end of enjoyment in the work, habits of neatness and exactness were cultivated, and *pater familias* was supplied with a most satisfactory article. He uses a different color for each class of negatives, and it matters little how much his supply of negatives become deranged, he can always pick out his marines, portraits or whatever is desired from the unassorted ones with very little trouble. Best of all, the enclosed negatives will drop easily into the plate boxes from which they originally came; perhaps the best place devised for storing negatives safely and securely.

Using Spectacle Lens

I suppose there are any number of my readers that are bemoaning the fact that they do not possess a large camera. They find them listed at from \$25 to \$50. A lens

such as they imagine they must have will take the rest of the hundred, if not more. Placeholder, trays and the like to use the larger sizes will be quite an item. They also recognize the fact that such of their friends as possess both the modest 4 x 5 or smaller and a larger size, rarely use the larger box. In spite of this knowledge, they feel that they would occasionally like to use something larger. It can be done for a few dollars if one is not too exacting. You will find the second-hand dealer in photographic supplies, brokerage he sometimes calls it, will offer you a list of dozens of good cameras that are a few years old in pattern, that can be secured for a few dollars. Buy one of them. Measure the amount of extension the bellows permits and then obtain of your optician a spectacle lens of a little shorter focal length. If you do not wish to go to the expense of having it mounted in brass you can, with a little ingenuity, some glue and strips of heavy paper, make your own mount. The tube can be easily made by winding the glued strips of paper around some round object of the desired size, to the good, generous focal length of the lens, as with the familiar "Waterbury" that was so common a few years ago. You must get what is called a periscopic lens. It will cost about fifty cents. The chemical focus will fall in a slightly different plane from the visual one. The exact amount of difference can be determined by experiment. Roughly speaking, it is about one-thirtieth nearer the lens. Quite often the simple expedient of turning the ground glass rough side out will make about the right correction. You will have plenty of time this winter to get such an outfit in shape. It will not do for quick shutter work, but for the making of a few large, well-studied out landscapes the outfit will surpass the one you figured up to cost in the neighborhood of a hundred dollars. Owing to the good, generous focal length of the lens, as well as to its few reflecting surfaces, you will be surprised at the superiority of the results. Many of the leading amateurs across the pond use just such lenses for this class of work in preference to the best samples of the lens maker's art. Not only the saving in cost, but the satisfaction of having worked it out yourself, will be gratifying.

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4x5, 2½x4¼ and 5x7, on developing paper, portraits of babies, groups and country scenes, for landscapes and anything of general interest. Mostly post cards. Class 1.
- 3430—Harry S. Huddle, West Sonora, Ohio.
All sizes under 5x7, including post cards, on developing paper. Landscape, outdoor portraits, groups and street scenes, for street scenes and landscape. Class 2.
- 3431—Mrs. O. F. Moury, Elkton, Ore.
3¼x5½, on developing paper. Class 1.
- 3432—Earl H. Lucas, Portland, Mich.
3½x5½, on developing paper, of hunting, camping and fishing scenes. Class 1.
- 3433—Russell Hone, Swift Current, Sask., Canada.
4x5, on developing paper, of landscapes, for landscapes and natural history specimens. Class 1.
- 3434—W. A. Flowers, Elko, Nev.
Post cards only. Class 2.
- 3435—E. Tejeda, Box 166, Texas City, Tex.
Post cards, 5x7 and 6½x8½, on developing and printing-out paper, of miscellaneous subjects. Class 1.
- 3436—J. P. Graham, 823 Nob Hill Ave., Seattle, Wash.
From 3¼x4¼ to 4¼x6½, on developing paper, of marine, for any good prints of any subject, but especially marine. Class 1.
- 3437—Geo. R. Sparks, Box 120, Markleville, Ind.
4x6 to 8x10, on developing paper. Mostly studio work and some landscape. Class 3.
- 3438—J. H. Corwin, R. D. 4, Wellsville, N. Y.
4x5 or post cards, on developing paper, of views, groups, landscapes and farm scenes, for good post card views, scenes or anything interesting, not personal. Post cards only. Class 1.
- 3439—Arthur J. Thompson, 747 S. Los Robles, Pasadena, Cal.
4x5 and 2¼x3¼, on developing paper, glossy and rough, of general subjects, for 3-10-9 cascades. Class 2.
- 3440—C. A. Andrews, Box 14, Leland, Wash.
5x7, on developing paper, of mountain scenery, sea, hunting, for anything of interest. Class 1.
- 3441—Thos. Bradt, R. F. D. 4, Aylmer West, Ont., Canada.
4x5, on developing paper of Niagara Falls, country scenes and general views, for me-

chanical subjects, marines, interiors, Indians, scenery and general views. Nothing but good work sent and accepted. Foreign exchange and stereos wanted. Eight years' experience. Class 1.

- 3442—Henley H. Hall, 7 E. Broad St., Richmond, Va.
5x7 and 2½x4¼, on developing paper, of scenery. Class 1.

RENEWALS

- 344—J. E. Whitmore, Scranton, Iowa.
Class 3.
- 347—H. M. Biggin, 60 Ellsworth St., Sharon, Pa.
5x7 and post cards, of genre, marines, landscapes, etc., for same and seashore views; also fancy portrait lightings. Tell me what kind of pictures you prefer. Class 1.
- 2139—Albert G. Hill, 8 Hobart St., Meriden, Conn.
Post cards of waterfalls, including Niagara. Au Sable Chasm, etc., for waterfalls, animals and marines. Privilege of rejection extended and expected. Good work only. Class 1.
- 2465—Richard J. Russell, Box 194, Hayward, Cal.
Any size prints, postals and lantern slides, of mountain scenery and pictorial work, for interesting exchanges only. Reserves right to reject work not wanted.
- 2556—John E. Thwaites, S. S. Dora, Seward, Alaska.
3¼x5½, on developing paper, of Alaska coast, and general views, for atmospheric effects, and wild game. Good work. Post cards or plain prints. Class 1.
- 2572—Cedric A. Kilner, 2715 Warren Ave., Chicago, Ill.
3¼x5½ and post cards, of general views of interest, for same.
- 2619—Frank Smith, R. F. D. No. 1, Oneida, N. Y.
- 2936—A. T. Hudelson, 1011 Tennessee St., Louisiana, Mo.
Stereos, on developing paper, of scenery along the Mississippi River, in Missouri and Minnesota, also set Minnehaha Falls and Glen, for historic and general views of interest. Would like a set of each of our National Parks, and Niagara, also foreign countries. Stereo slides only. Class 1.
- 2988—H. M. Suter, 3005 W. North Ave., Baltimore, Md.
Views of subjects of general interest, on post cards mailed in envelopes, or lantern slides. Class 1.
- 3032—John Daniels, 73 Bellingham St., Woonsocket, R. I.
Class 1.
- 3033—William F. Bowman, Mentone, Ind.
4x5 or smaller, and post cards, on developing paper, of interesting scenery of all kinds or historical views. Class 1.
- 3043—H. G. Heinsohn, New Ulm, Tex.
Will exchange any size up to 8x10. Class 1.
- 3075—W. H. Stannard, 1304 L St., N. W., Washington, D. C.
4x5, on developing paper, of natural scenes and landscapes, also views about Washington, for nature scenes, landscapes, and city scenes, to a small extent. Class 1. Is now ready to renew exchanging.
- 3077—Edwin A. Scharmen, R. F. D. 1, Box 96, Traverse City, Mich.
Class 1.
- 3089—Tina F. Benedict, Anatone, Wash.
Class 2.
- 3103—Frank H. Harvey, care Division of Carriers' Accts., 1311 G St., N. W., Washington, D. C.
4¼x6½ and 3¼x5½, on developing paper, of travel photos of general interest, for same. Class 1.
- 3176—C. W. Jenkin, Box 292, Grass Valley, Cal.
3¼x5½, 4x5 and 5x7, on developing paper,

CLUB NEWS AND NOTES

- of architectural and general views. Have no particular subjects to solicit. Class 1.
- 2587—J. R. Green, 906 Poplar St., Cairo, Ill.
Class 2.
- 2723—Fred Walker, 717 School St., McKees Rocks, Pa.
2½x4¼ and 3¼x4¼, of street, river and park scenes, for anything of interest. Post cards only. Class 1.
- 3389—J. C. Banks, Foster, Ore.
3¼x5½, on developing paper, of Oregon scenery, mountains, lakes, Pacific Ocean, scenery and wild animals, for nothing but natural scenery, timber, ocean, river, mountain, waterfalls, cascades, or wild animals. Will pay no attention to poor work or subjects contrary to this notice. I like rough, rugged scenery of all kinds. Post cards only, Class 1.
- 3083—E. Millard, 18 Fountain, Carnegie, Pa.
3¼x5½. Class 2.

CHANGE OF ADDRESS

- 191—Mary E. Tuttle, 1555 La Salle Ave., Chicago, Ill.
(Was Uniontown, Pa.)
- 1952X—Chas. I. G. Smith, 844 13th St., Oakland, Cal.
(Was 817 12th St., Oakland, Cal.)
- 2076—H. J. Becker, Cascade, Iowa.
(Was Cedar Rapids, Iowa.)
- 2596—Maurice Hindus, 1101 22d St., Spokane, Wash.
(Was 621 South Adams St., Spokane, Wash.)
- 2710—G. M. Wolfe, Grays River, Wash.
(Was Woodburn, Ore.)
- 2958—W. P. Steward, Westport, Md.
(Was Winona Lake, Ind.)
- 2964—Mrs. Henry E. Harin, 305 S. Iowa St., Lyons, Iowa.
(Was Miss Ella Burke, Chicago, Ill.)
- 3050—Van Hendrix, Benton, Ark.
(Was Newport, Ark.)

- 3097—Fred J. Kopp, Box 254, Snyder, Okla.
(Was Hobart, Okla.)
- 3102—P. Austin, Meridian, Miss.
(Was R. F. D. 5.)
- 3174—H. L. Sadler, Lewistown, Mont.
(Was Missoula, Mont.)
- 3186—Geo. S. Higby, 480 41st St., Oakland, Cal.
(Was Berkeley, Cal.)
- 3205—Clifford Hampton, Delray, Fla.
(Was West Palm Beach, Fla.)
- 3264—Arthur C. Gyllenborg, 620 45th Ave., East, Duluth, Minn.
(Was 312 9th Ave., West, Duluth, Minn.)
- 3236—Corbin B. Stambaugh, Browning, Ill.
(Was Swan Creek, Ill.)
- 3357—W. E. Turner, 4200 Grand Blvd., Chicago, Ill.
(Was 4217 Calumet Ave., Chicago, Ill.)
- 2571—W. E. Lake, Balaton, Minn.
(Was Burchard, Minn.)
- 3322—K. G. Nelson, Hotel Fortney, Viroqua, Wis.
(Was La Crosse, Wis.)
- 3331—M. E. Newell, East Green St., Champaign, Ill.
(Was Brighton, Ill.)
- 3343—Albert Nagel, 577 Milwaukee St., Milwaukee, Wis.
(Was Mayville, Wis.)
- 3400—L. A. McCord, Wittenberg College, Springfield, Ohio.
(Was Bryan, Ohio.)
- 3280—John F. Meissner, 1364 1st St., Milwaukee, Wis.
(Was Buffalo, N. Y.)

WITHDRAWALS

- 2620X—L. E. Whitford, Shelton, Neb.
Withdraws, lacking time. Wishes those owing him cards to pay up so he can close his exchange accounts.

CLUB NEWS AND NOTES

Northern Photographic Exhibition

S. L. Coulthurst, F. R. P. S., well known to readers in this country through his valuable contributions to the literature of oil printing and kindred processes, writes us to make early announcement of the Northern Photographic Exhibition to be held under the auspices of the Manchester Amateur Photographic Society, of which he is Honorable Secretary, in connection with the Liverpool Photographic Association. This annual exhibition is now recognized as the most important one held in England, outside London, and each of the past twelve have been very successful and increasingly so. It is kept up by a strong band of pictorial workers, amongst whom are C. F. Inston, T. Lee Syms, Dr. Thurston Holland, J. Dudley Johnston and others. The management frames up, temporarily, all foreign exhibits, and uses every endeavor to encourage foreign workers to send. An entry fee of one shilling per frame is charged, but

is remitted on unaccepted work except for one shilling on the whole of any sender's work to cover registration, repacking, etc. Exhibits must reach the secretary not later than December sixth, 1912. They should be addressed: Hon. Secy., S. L. Coulthurst, F. R. P. S., Broad Oak Road, Worsley, Manchester, England.

Spokane Camera Club

On the evening of August twenty-eighth a number of enthusiastic camera workers held a meeting in the assembly room of the Old National Bank and formed the Spokane Camera Club. David J. Sheahan was made secretary pro tem, and the evening of September sixth was selected for the next meeting, at which time officers will be elected and committees appointed. Seattle contains a large number of able and enthusiastic camera workers, and a club there should enjoy a large membership as soon as the benefits of such an organization become known.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

E. C. Freeman, formerly of Murgittroyds, Spokane, is now doing the finishing for Columbian Optical Company in Portland.

Meier & Frank's, Portland's largest store, have the photo department on the first floor now. Their business has increased fourfold, due mainly to Mr. Averill's untiring efforts and good assistants—mostly young ladies.

H. A. Parker, of Pasadena and Lake Tahoe fame, passed through this city on way home from the lake. He reports this season's business as far ahead of all others.

The writer met G. Buck and M. E. Charleston, both Vancouver photographers, in Seattle, on their way to the Portland convention.

Dick McMann, of the Northwestern Photo Supply Company, bought a new suit in which to attend the convention; but, unfortunately, got it wet in Seattle before leaving. It rained unexpectedly.

J. C. Shinkh of Woodland has added some new fixtures to his studio.

Henninger of Chico enjoyed a two weeks' vacation during August, taking his better half along. Both secured a much needed rest, as business has been rushing with him.

Mrs. Davis and daughter, of the Churchman studio, Chico, spent a week in Sacramento recently.

Mrs. M. E. Lewis of Salem, now Mrs. A. Bullock, intends to open a new studio in that town about November first, Mr. Bullock taking charge.

Mrs. Cronise and daughter, of Salem, have just returned from a two months' trip to mountains. Tom stayed at home and worked.

W. S. Valentine of Redding kept his studio open all summer this year and reports very good business.

Ashland, Oregon, has two new photographers. Both Mr. Camps and Mr. Boyd having leased studios there.

Mr. Hill of Roseburg, Oregon, has gone

back to the Coast, returning to his old town of Coquille.

O. G. Sturgess of Medford, Oregon, is now running the Vitax studio, at 709 Main Street, Chico, California.

Mrs. Turner's New Studio

Mrs. I. C. Turner, who has been conducting studios at Imperial Beach, South San Diego, has just completed a second studio at Chula Vista, California. The new studio is thoroughly modern in all its equipment, is Mission style, and cost over three thousand dollars. Miss Sternenberg, Mrs. Turner's able assistant, who has recently returned from a three months' trip to Baltimore, Washington and Chicago, will assist with both studios. The new studio was opened for business September fifteenth and has every prospect of a most gratifying patronage.

Notes from the Illinois College of Photography

Huie Chow of Canton and Bau Ching Cha of Shanghai, China, have enrolled at the College for the photographic course. These young men speak English fluently and are very progressive representatives of the new republic.

Geo. A. Frederiksen, student of 1908, visited at the College a few days last month. He has been spending the past year with his father in Porto Rico.

We were very sorry to hear of the death of Miss Tillie B. King of 1905, who accidentally shot herself with a rifle last month. She visited the College a couple of months ago and reported excellent success with photography in her home town.

Miss Grace Stockham of 1909 has opened a studio at Mullen, Nebraska. Since finishing her course Miss Stockham has held a position with a large firm of traveling photographers, visiting all parts of the country.

F. L. Thomas, who took a course in photography this spring, has opened a studio for amateur finishing and home portraiture

NOTES AND COMMENT

in Portland, Maine, and reports business excellent.

Guy R. Reynolds, who took a position last month in an engraving plant at Mobile, Alabama, surprised his friends by announcing that he had been married several months to Miss Anna Margworth of this city. They will make their future home in Mobile.

Lawrence Day and L. L. Merrill, who have been spending the summer in Wisconsin and Ontario, respectively, have resumed their work at the Engraving College.

Mrs. Helen Francis, student of 1902, was recently elected Vice-President of the Kansas Photographers' Association; Will Thorne, of 1901, was elected Vice-President for Nebraska of the Inter-Mountain Photographers' Association, and LeRoy Kellogg, of Denver, student of 1905, was made Vice-President of the Inter-Mountain for Colorado. Quite a number of our other students hold offices in the various State associations.

Improvement in Portable Skylight

We have just received from the manufacturers, The Shoberg Company of Sioux City, Iowa, advice that their Portable Skylight is enjoying sales that are increasing daily, and that they are finding new customers particularly well pleased with the new firing pan which does away with the cap system of setting off the powder, which makes a great improvement over their machines of last year, satisfactory as they were to all their users. We would advise all our readers who are looking for increased business to find the Portable Skylight advertisement on another page and write the manufacturers for any desired information.

A Commendable Policy

Despite the fact that they have been enjoying an ever-increasing business in flash powder, James H. Smith & Sons Company, the manufacturers of the well-known Victor powder, have voluntarily replaced this former success with a new formula for which they claim twice the illuminating power with one quarter the smoke and report. As this new powder costs more to manufacture and users will require a smaller amount for any given work, the move does not seem, at first blush, to be an advantageous one to the firm. However, they are evidently foresighted enough to realize that a powder possessing the advantages

claimed will surely open up new fields of flashlight work and as surely increase consumption in the present ever-enlarging fields. The name and price of the new product is the same as that of the old. Be sure and get some of the new Victor and give it a trial. Practically every dealer in the country carries James H. Smith & Sons Company's line of flash powder and flashlight accessories. The firm's address is 3541 Cottage Grove Avenue, Chicago, Illinois, and they will be pleased to send full particulars of their many excellent products.

New Dallmeyer Lenses

Too late for our last issue came a little booklet giving details concerning the latest productions of the celebrated Dallmeyer firm of lens manufacturers. These are the Carfac, a new three in one lens specially designed for hand cameras; and the new large Adon for telephoto snapshots. The well-known Stigmatix and the regular Adon come in for mention. As these lenses, particularly the two newer ones, have distinctive features, our readers should send for a copy of this little brochure. It can be obtained free upon request to the American agents, Burke & James, 240-246 East Ontario Street, Chicago, Illinois.

"Flashlights by Luxo"

The above is the title of a very comprehensive and well-illustrated booklet on flashlight work issued by the maker of the well-known Luxo flashlight powder. The book is sent free upon request and if our readers knew just how instructive and informative it is, the demand would practically be the same as the circulation of our magazine, as every reader would send for a copy. Some hint as to the value of the matter may be gathered from a few of the titles treated, namely: Tunnels, Mines, Machinery, Interior Groups, Architectural Interiors, Children, Dramatic Groups, Banquets, Animals, Art Lighting, Rembrandt Lighting, and others. Fine illustrations show examples of the several classes of work. Do not fail to send for a copy at once, as the season for flashlight work is rapidly coming on. Address, C. L. Buchanan, Station J, Philadelphia, Pennsylvania.

"Hiawatha's Photographing"

This is the title of a very happy little sketch on the old time photographer and one that

will be enjoyed by every photographer. It is written by Lewis Carroll and is in that writer's most entertaining style. The illustrations are excellent, and, although it is hardly more than a "thumb-nail" production, it is well worth sending for, more so than some of the more pretentious booklets that we are asked to write for and await with great expectations. Mention the title and write the Promotion Department, Wolensak Optical Company, Rochester, New York, and a copy will be sent free.

Ingento Developing Tablets

The constantly increasing demand for Ingento Tablets has made possible a saving in the cost of production which enables us to reduce the retail price to twenty-five cents, thus giving the consumer the benefit of the reduced cost of manufacture. Each package contains twenty-four pairs of tablets, giving a clean, fresh developer for twenty-four different batches of plates, films or papers. It will be found that Ingento Tablets are a most economical developer. A twenty-five cent package of M.-Q. Tablets will make seventy-two ounces of developer for plates and films or forty-eight ounces for papers. The reduction also applies to Sepaline Tablets, one package of which will tone about three hundred 4x5 prints. Ingento Tablets are for sale by all photographic supply dealers.

Platora in Canada

It will be of interest to Canadian photographers to know that Platora portrait paper may be secured in their own country without the expense and trouble resulting from customs. A complete stock of Platora is carried by A. M. Lyon, 87 Isabella Street, Toronto, Ontario, to whom photographers in Canada can write for samples and prices. The manufacturers of Platora, which is rapidly winning favor among the professionals throughout the entire country, have been extending their operations considerably in the last few months, having developed quite an extensive trade in South American countries through their foreign representative, Mr. Bensabat. Any professional photographer wishing to try out this high-grade portrait paper or Instanto, a less expensive product for commercial, amateur, view or portrait work, can secure free samples and literature by writing The Photo Products

Company (Dept. E), 6100 La Salle Street, Chicago. This will place you under no obligation other than that of giving the samples an impartial trial and reporting as to the results secured. Quite a number of our readers have taken advantage of this liberal offer and are glad that they have done so—it's worth investigating, anyway.

C. F. Potter, Jr., in New York

A most interesting letter from C. F. Potter, Jr., former editor of *Western Camera Notes*, advises that he is now connected with the Photo Card Company of New York City, a firm that is doing a large business in printing photographic post cards for the trade. Besides Mr. Potter and the two other owners, there are employed some twenty people, and all are kept on the jump all the time in an effort to keep up with the demand for their work, despite the fact that all the printing is done by machinery. The firm occupies the entire twelfth floor at 30-32 West Fifteenth Street, New York. As many of our readers were former subscribers to Mr. Potter's magazine, they will be interested in this report from him and join us in wishing him all success.

Window Trimming Contest

The Photographic News is offering prizes of fifty dollars in gold for pictures of the best display of photographic goods made by dealers before December twenty-first, 1912.

The rules are simple. Send a 5x7 picture of the window, together with a full description of its contents, to: Editor, *Photographic News*, 42 East Twenty-third Street, New York City. The contest is open to all dealers without restrictions. Full details are to be printed in the *News* for October.

An Addition to the Firm

John C. Umbehaun, manufacturer of the Photo Tri Bliss, sends the following item:

"Born under the skylight, August eighteenth, a young photographer, Umbehaun IV. Weight, seven pounds, six ounces, three scruples, two pennyweights and thirty-two grains. Name, Onyx, as he came onyxpected. He is already developing and enlarging while father does the negative making. He has long fingers, won't get his sleeves wet in manipulating plates and papers later. His voice is strong and indicates that he will be a good booster and salesman for the Photo Tri Bliss."

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

The Consumer is the Trial Judge

WHEN a lawyer in making his address in behalf of a client can only offer high falutin' claims unsupported by proof or fact, the client generally goes to jail and the lawyer is labeled a "hot air jammer."

Cyko Wins Out

with the consuming photographer because every photographer in the country has been furnished with proofs and facts of Cyko superiority.

His printing room is putting daily those proofs to the test.

His show case contains the evidence.

His pleased customers act as witnesses.

His Convention Exhibits proclaim his good judgment.

Never have photographers been so critical as now in their desire to get at the heart of the matter and sift out the truth "from the chaff which the wind bloweth away."

AnSCO Company

Binghamton, N. Y.



THE MAID OF THE MIST
By W. H. PORTERFIELD

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

CALIFORNIA

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Importance of an Exposure Method

By F. Morris Steadman



With Illustrations by the Author

EDITORIAL NOTE: This is the second article of Mr. Steadman's series, but the fact that it is one of five or six which he will contribute to our pages is to be run consecutively is the only reason for calling it one of a series. Like the one in our last, it is complete in itself and can be so read and applied by our readers.

Let us, for a moment, take a lesson from our old school days. "Seven times eight is fifty-six," etc., comes to us so readily that our thoughts rarely go back to the months of study and repetition that were necessary to fix those tables in our memory. Neither do we recall with what pains and difficulty we reasoned out the simple problems in arithmetic. And yet, the most of us finally succeeded in learning the tables and rightly applying our reasoning powers in the solution of ordinary problems.

The problem of correct exposure is only a little more complicated than those problems involving inches, grains, pints, etc.; but, were actinism, stops and plate speed reduced to the same unit simplicity as other measurements and incorporated with them in our text-books on arithmetic, the whole matter would be solved in the logical and only rational way.

Individual exposure methods, more or less valuable, are made necessary by this lack, on the part of the school books, of a suitable phraseology covering the factors involved. As it is, some fairly correct exposure method is placed in the hands of the worker and he is asked to accept it without understanding. "swallow it whole," as the saying is. If a method could be devised which

CAMERA CRAFT

would really "work itself" and be error proof at every step, many workers would hail it with delight, perfectly satisfied to remain in ignorance of the theory on which it might be based. Years of "guessing" at exposure, together with the absence of exact knowledge relative to the factors governing it, has, in a sense, made the popular photographic mind indifferent to the point where the purely quantitative value of the elements of exposure are rarely considered.

An exposure method may be ever so simple, and yet, if the purchaser on first examination does not grasp perfectly the method of working it, and does not get results at the first trial, he will very likely pass the whole method up instead of giving it the study necessary to master it. In my own method, for example, I know that many people who have bought the book have never arranged the little pocket note book with the hole in the cover for measuring the light. "I did not think that was necessary," is their excuse. Or with the measuring book in hand it is quite the rule to be careless in holding it near the brightest lighted part of the subject and facing the brightest light source. One party who was trying to find the tint time of the light in taking a portrait near a window, held the book so low and so near the wall that the light from the window could not strike it at all. Had I not been present to correct him, the results would have caused the method to have been condemned as useless. Or there may be carelessness in judging the least visible tint, or perhaps in using the subject table. Personal experience in teaching the method has shown me that it is possible for a novice to apply rules that are seemingly the most simple in such a way as to discredit even the good old truth that "twice two is four." For example, in spite of the plain statement in my method that the tinting book should be held on the brightest side of the subject and turned toward the brightest light source, I have had inquiries covering this point. I have had many kind words of appreciation from workers who are using my method, but I mention these occasional errors of judgment in order that the reader may be influenced in favor of an exact method, one based on simple units and capable of being taught in the schools from the regular text-books on arithmetic and physics. Such a solution of the problem is the only one worthy of this age of exactness in which we live. For the present, however, particularly if the reader be in earnest, and he has not heretofore had very good success in estimating exposures, he should endeavor to master any one method he may have in hand, feeling that some little error or carelessness of his own is responsible for his present ill success.

Will the reader kindly call up before his mind's eye the negatives which resulted from his last box of plates or roll of film? What was the percentage of successes? Did they really satisfy? If working for profit, did they bring good orders? Could more pleasure have been derived or better prices secured for the work if the quality were radically improved? Are there not other workers using methods, methods you have not taken the pains to learn, who can, regularly and evenly, turn out better negatives than you are making? And answering yes to the last question, why do you not take up and master the method that the other man is using?

Perhaps it is because, after years of practice and experimenting, you have



MOTHER AND CHILD

arrived at a point at which your judgment enables you to get your exposures about right. If you are a professional of long standing, this of course may be your reason. You probably look at photography solely from the business point of view and are glad of the amateur's failures in time exposing. Of course this is one of the safeguards of your business. Personally, I would rather consider the welfare of thousands of private families, far removed from any photographer, and find satisfaction in their learning to take their own pictures in and about their own homes. How many dear ones in isolated homes have passed away without leaving their friends or relatives any record whatever of their loved faces. I would rather contemplate and help to bring about the day when the simple truths of light action will be as universally known and applied as the ability to read and write. Looking at photography from your special point of view, it has perhaps never occurred to you that it is really a disgrace to the present age that hundreds of thousands of amateur photographers are making nothing but snapshots, simply because they do not know a few basic truths governing light and its action; that in the schools there is nothing offered that will give a knowledge of the nature and use of actinism.

If you are an amateur you may have acquired the false idea that success depends upon some particular lens, or that one's only salvation lies in a special developing formula, a certain kind of plate, film or paper. Or, perhaps, you are averting the calamities attending incorrect exposure by a certain method of developing; a "soak-the plate-in-a-soda solution first" plan, or some other such nonsense. These methods are about as important as is the kind of timepiece one uses in timing his work. Anything from a sun dial to "grandfather's clock" will suffice. Put such minor matters behind you, they are as active as

his Satanic majesty himself in leading you astray. Take that ever-running serial of seven thousand chapters, entitled "How to Develop an Undertimed Plate," and translate it to, "How to Develop a Plate with Wisdom which has been Exposed with Ignorance." Or perhaps, "How to Digest a Meal Without Eating It"; or, "How to Hunt with a Gun that isn't Loaded," may sound better. Bright stuff, isn't it?

It should be perfectly clear to the reader that the way to improve is not by getting finer tools with which to make mistakes, but by learning more truths and eliminating some errors. Learn all that is possible of the fundamentals, to the end that the result of each step of your work will be known before it is taken. Accuracy and efficiency are great words in these days.

A carpenter thinks nothing of laying off a stairway of a certain rise and depth, nor of marking off a pattern rafter for a certain pitch of roof. In my own home-portraiture and other photographic work, the exposures are made in exactly the same matter-of-fact way. The light is measured, the subject classified, and the necessary exposure given. I develop as many as five rolls of 5x7 film in a tray, one long and wide enough to take them in flat, developing them for six minutes. Frequently I work in the dark, asking some one in the next room to tell me when the time is up, doing so rather than trouble to light the ruby lamp. A dip in water, followed by complete saturation in the hypo bath, and the light is turned on for the fixing and other work. The negatives are, practically, always right, due to the correct placing and lighting of the subject and to the correct exposure. Alas, it is only in photography that one need write articles to prove the practical value and good sense of accuracy. In my own practice, I have proven its value to my own satisfaction, since it has taken me from failure to success.

Undoubtedly there are many workers who hold the opinion that any method which tends to make the work uniformly accurate, also tends to take away the individuality of the results. This is the greatest of all mistakes concerning the subject. Measurements deal with fundamentals. Imagine the inspiration of a fine architect being hindered by an accurate knowledge of his draughting tools. In photography the securing of correct exposure is simply an accuracy of process, and that process lies in a region wherein I hope the reader does not need to go for his inspirations or their expression. It seems strange that any one should really consider their higher development as dependent upon an ignorance of process. As well argue that it would injure the individual expression of a painter to know oil paints from water colors or to be able to distinguish a paint brush from a thumb tack. To confuse an error in process with some indefinite characteristic or artistic quality in the results is a farce and one that appears rational only in photography.

There has been, so far in this article, too much scolding and arguing, and, to make up for it, I shall now try to make clear to the reader the basis or theory on which exposure methods are founded.

Let us suppose a portrait subject, one of normal complexion, posed in a light which requires four seconds in which to get a least visible tint on Solio paper. On using Ansco, Eastman or Lumiere film, the exposure will be four seconds with stop f-16. This has been found, by trial and error method, to be

THE IMPORTANCE OF AN EXPOSURE METHOD



ON THE VERANDA

correct, and stop f-16 is called, in my method, the "Speed Stop" of these films, simply because that stop enables the tint time of the light to be used as the exposure.

All the exposures in the table which follow result in the same chemical action in development and are known as "Equivalent" Exposures:

F-4	or U. S.	1	.....	Exposure	$\frac{1}{4}$ second
F-5.6	or U. S.	2	.....	Exposure	$\frac{1}{2}$ second
F-8	or U. S.	4	.....	Exposure	1 second
F-11	or U. S.	8	.....	Exposure	2 seconds
F-16	or U. S.	16	.....	Exposure	4 seconds
F-22	or U. S.	32	.....	Exposure	8 seconds
F-32	or U. S.	64	.....	Exposure	16 seconds
F-45	or U. S.	128	.....	Exposure	32 seconds
F-64	or U. S.	256	.....	Exposure	64 seconds

As has been stated, all these exposures, under the conditions mentioned, would be correct chemically. Now, under these conditions, on finding that Solio paper will take on a least visible tint in four seconds when exposed to the strongest light at the subject, the speed stop for the film or plate used is simply the stop whose exposure is the same as the tint time, or f-16 (or U. S. 16). Now, suppose that some glossy gaslight paper had been used in taking the tint time of the light. These papers tint in about one fourth the time of Solio and would therefore have tinted, in this case, in one second instead of four. The stop which gave the correct exposure in one second, stop f-8, would therefore

CAMERA CRAFT

be, for us, the speed stop for the film used, should we base our exposure method on the use of gaslight paper.

Assuming that all exposure methods, properly used, give correct exposures, different methods may be compared as to their speed in practice, *i. e.*, the time required to make the light measurement, which involves a comparison between the size of the speed stop used in different methods for any given film or plate. The larger the speed stop, the more rapid the method of tinting employed in any particular exposure method. Once the speed stop for any plate or film is found with any method of tinting, whether with the least visible tint, as in my own method, or with a deeper standard tint as in other methods, the speed stop and the tint time always go together, since a stronger or weaker light will alter the tint time in direct relation to the decrease or increase in exposure with the speed stop for that same light. Whatever exposure method you may employ, try to comprehend the reason of the speed stop, and realize that the tint time, modified for various subjects, gives the exposure with that stop, and that this exposure is shortened or lengthened by using a larger or smaller stop.

Should the above truths be fully comprehended, any worker should be able to take any kind of tinting medium obtainable and make from it an exposure method suited to its tinting speed. The only difficulty would be in ascertaining by experiment what stop would be required to get a correct exposure with a certain kind of subject when the time of exposure agreed with the tinting speed of the medium used. The truth involved, however, is of a purely physical and quantitative nature; and, as such, is "common property" and should be comprehended by all.

No reader will be able to benefit from the present series of articles, which aim to make clear a radically different and a more scientifically correct method of working, unless he takes up some good method of exposure by light measurement. This method of working is possible only through the employment of such an exposure method. It presupposes a disposition on the part of the worker to perfect and refine the use of the method in his hands. It is a simple question of common sense. Difficulties should be mastered in the order of their presentation. Exposure comes before development. Simply be rational.

Again it is a general rule that all the arts and sciences advance together; but this is not without many exceptions. These are not so apparent in the early stages of human progress as in later times. Homer lived and sung when the arts were unborn, or at least in their infancy. The Roman civilization, though advanced in some of the sciences, produced no art except architecture worthy of the name; and in the literary age of Shakespeare and his contemporaries, there was no corresponding sculpture or painting produced in England. In our own time and country, the civilization is extensive and wholesome; the sciences and the more matter-of-fact industries are well developed; but as an offset to them, the arts, with some brilliant exceptions, are flippant—witness the poetry, novels, pictures, plays, operas, decorations.—JOHN C. VAN DYKE.

Home Portraiture

By David J. Cook



With Illustrations by the Author



BREAKFAST TASTES GOOD TO ME

HOME photography and different photography are synonymous; and, as each home differs from every other home, so portraits taken therein are bound to be different and possess more or less the characteristics of the home life of the individual. Herein lies the chief charm of an at-home photograph. It is distinctly different from the productions of the studio.

Portraiture in the home has been practiced, to some extent, ever since the inception of photography, but only within the last few years has it received proper recognition, and is, as yet, a comparatively new field to the professional photographer. The progressive practitioner,

however, has seized upon it as a good thing, as something worth while and meeting the ever-present demand for "something new" in photographic portraiture. The photographer who longer neglects this field is bound to lose prestige and the patronage of his clientele. At-home photography has always been popular with the public, and what, with the superior equipment now obtainable, and our greater technical knowledge, it will be only a short time until as many portraits are taken in the home as are taken in the studio, portraits that will compare in every way, to the best finished professional work.

The public's preference for this class of work is due largely to the attractiveness of the home surroundings and to the novelty and convenience of

CAMERA CRAFT

being able to have a portrait taken without inconvenience. Costumes may be easily changed, the services of one's own maid being at command; playthings for the little one's abound, and surroundings are natural. There is no straining after theatrical effects, and no nervousness present to spoil the expression. Baby can be caught with doll and blocks, in her favorite corner; sister at the piano; brother in negligee, doing most anything or "just nothing." Mother in easy chair with story book or fancy work; and father at desk or by table, busy reviewing the happenings of the day.

The interest of the profession in home-photography is mainly a financial one, although it offers great scope for the display of artistic talent. Through it one can establish himself in a very lucrative profession for a nominal investment. No specially constructed quarters are necessary, and one is spared the responsibility of maintaining a studio together with the necessary expenses attached thereto. No handicap exists as to location. No restriction as to territory, for the at-home photographer sets up his studio wherever he may be, as the equipment is light and of the simplest character. He is independent and can arrange his time and make engagements to suit his convenience. Sittings may be made by the light from an ordinary window or doorway, on the porch, in the open; and either in the day time or at night by aid of the portable skylight or other artificial luminary; wherever and whenever it is most convenient, in the home, office, store or workshop.

While it is possible to get beautiful effects by daylight alone, yet preference is given artificial light by the majority of workers. Using the latter, one has greater latitude and scope as to selection of place of sitting. Many beautiful effects may be secured by stairway, fireplace, alcove, desk, piano, doorway, etc., etc. Social functions, of an evening, are possible only by flashlight. This being so, in order to meet with the highest success in his chosen work, one must be equipped with a reliable flash machine, or, a much better name perhaps for apparatus of this nature, a portable skylight. Many families have had experiences that are anything but pleasant with the old open flash machines; and, remembering the thick deposit of dust left on floor and furniture from burned flash powder, not to mention the dense smoke made to pervade the house, strongly protest whenever flashlights are mentioned. With the portable skylight, however, none of these nuisances are produced. One can go into the most refined home and leave it in perfect order without litter, smoke or odor.

The requirements of such a machine are: It must be smokeless, collapsible, light, portable, giving perfect ignition of the powder, and that instantly. Such apparatus may be procured for a very nominal amount from advertisers in CAMERA CRAFT. The illustrations accompanying this article were all made with such a machine, and certainly they speak for themselves. The little fellow was taken at the breakfast hour. He had no idea of what was going on, other than that he and the very interesting gentlemen were having a jolly time with fireworks. Being at home and among familiar surroundings, he was not at all shy or frightened, as he surely would have been if in a strange studio. But five grains of powder were required to make a full-timed 8x10 negative. The machine was placed about five feet from the subject, tilted as far over and as

HOME PORTRAITURE



MUST I USE A KNIFE, TOO?



KNIVES AND FORKS ARE CLUMSY THINGS

low as possible, just escaping the field of the lens. Working in this manner, no reflectors are needed, and but little powder required. The steaming contents of the mug completes the home touch of the picture, indicating a warm repast. Pictures of this nature attract attention and make for business. They are easily secured by burning a little "punk" or cloth in the cup. With the portable skylight, "smoke pictures," "pipe dreams," "fire-light effects," etc., are easily



IT'S SO MUCH EASIER THIS WAY



AND TASTES A WHOLE LOT BETTER



AN INTERESTING GAME OF CHECKERS

secured. Just a few puffs of smoke are all that is necessary, the flash catches it perfectly.

In making home portraits, one should draw the line closely between them and studio work, so as not to incite competition or comparison. Once the customer is thoroughly pleased, one need have no fear that he will return to the old-style work.

In starting in the business in a place in which one is a stranger, one should select subjects of local prominence and give each a finished print for his trouble. If these are worthy, you may be sure favorable publicity will follow, as friends will admire and want theirs taken in a like manner. One must never let an indifferent piece of work leave his hands; success in this, as in studio work, depending in a large measure upon the spoken word. This is the best possible advertising; and, like the endless chain, there is no limit to the good it may do. A select list of names may be secured from grocers, milkmen, jewelers, etc., and from the telephone directory, and these, if properly approached, will afford business. None but the highest class announcements, the best of printing and finest stationery, should be used, and all advertising should be sent sealed. A booklet calling attention to your work and containing illustrations, in half-tone, of cunning baby pictures, charming misses, and attractive groups, such as home weddings, dinner parties, and other social functions, with nicely worded suggestions, will be of inestimable value as a business getter.



"GROWN UP PEOPLE HAVE SOME FUNNY IDEAS"

When called to the home, one must make himself master of the situation. He must be gentlemanly, yet strive to please with bold ideas not usually thought of. He should watch his subject closely; the key note to the composition is within the photographer's grasp. By inspiring confidence, one may have a free field for the display of his talents. When working with children, full attention should be given to them and not to the parents. They may be shown how the apparatus works and allowed to get thoroughly acquainted. The sitting must

CAMERA CRAFT

be arranged and the camera focused and ready so as not to tire them. When the exposure is made, allow them perfect liberty. In short, play with them as another child, but be about your business. Try to secure as many valuable remembrances of the child's life as possible, and be liberal with plates. Pictures showing their ability, sharpness and cuteness are especially desirable. When one's trade is established, he can play a "waiting game," as do men in other professions. One can then maintain a waiting list and record his engagements; and, with the exception of special social functions which demand immediate attention, give them a date when he will be at liberty to give them his undivided attention. This allows them to get everything in readiness and ample time to think things over. It also allows the photographer more liberty of thought and the time to make necessary arrangements. By making engagements, better results are secured and a more favorable impression given. A busy man is always in demand; and, if one can truthfully tell a customer that such dates are spoken for, it will not be long until it becomes published that, "if you want the at-home photographer to take your picture, you must make an engagement days ahead." This brings good results; and further, one's customers are more willing to pay the higher prices asked, feeling his services are much in demand, and therefore more valuable.

It is not beauty of the subject which makes it a work of art, but the beauty of the form which the imagination of the artist gives to the subject.—DENMAN W. ROSS.



A FLASHLIGHT GROUP
502

By THOMAS SOUTHWORTH

Effective High-Speed Work

By Walter L. Beasley



With Illustrations by the Author



THE STATELY PELICAN

FORWARDED herewith are a number of 5x7 prints, representative ones, part of a series which I obtained this summer in New England, and in the New York Zoological Park, with the Ross Telecentric lens, working at f-6.8. There is another series of the same lens working at f-5.4, but the lens used was of the f-6.8 series. I found this rapid telephoto lens with its seventeen-inch focus and short bellows extension, an ideal and valuable instrument for this class of work. Employing it, I have been enabled to obtain good-sized, sharp images of wild animals, large birds, etc., at long distances. This has been a decided advantage in many cases, not only because it permitted me to work from a point of safety, but also from an optical standpoint, the long focal length giving correct proportions to the figure.

My own past experience, as well as that of my friends, gives me a keen appreciation of the entire lack of that softness and diffusion so apparent when trying to secure a focus with lenses of this type that have been previously offered. With this new lens the image is as brilliant upon the ground glass as with the best anastigmats of the regular type. Ordinary telephoto lenses, even when made up with a fine anastigmat as one of the elements, require that they be stopped down to about f 11. This necessitates an exposure that is about two and one-half times as long as does my lens and about four times as long as that required by the faster series of the Telecentric. This new lens has all the speed and definition of the ordinary anastigmat, with this advantage: It gives, at the

CAMERA CRAFT



GIANT ALASKAN BROWN BEAR (Stop f-8, exposure 1/50 second.)

same distance, an image about twice as large as would an ordinary lens working at the same bellows extension.

An instance of the usefulness of the lens in wild game work is shown in the picture of the Giant Alaskan Brown Bear, which was obtained by operating



SIBERIAN TIGER IN CAGE (Stop f-8, exposure 1/50 second.)

EFFECTIVE HIGH-SPEED WORK



GROUP OF PELICANS (Stop f-16, exposure 1/50 second.)

through the bars of the den while the savage monster was seated on a rock ledge some fifty feet away. To have obtained the same sized image with my regular fast lens of between nine and ten-inch focal length would have required the dangerous act of going inside the den, approaching almost within springing



LION CUB (Stop f-8, exposure 1/25 second.)

CAMERA CRAFT



POLO PLAYERS (Stop f-12, exposure 1/300 second.)

range of this great brute, and thus taking a daring chance. The group of pelicans in the big flying cage was easily made from a point some forty feet away, and secured without giving the subject any alarm. The picture of the Siberian tiger is typical of the speed results obtainable, showing as it does that the speed is ample for enclosed cage work where the light conditions are unfavorable.

From my gratifying experience of the past summer with the Telecentric, I find that it is strikingly suitable for all natural history and wild animal photography, both in the field and elsewhere, affording as it does a long range and



THE HIGH JUMP

EFFECTIVE HIGH-SPEED WORK

secluded point for operating, while having the additional and vital advantage of speed and good definition at the same time. For press and magazine illustrations I have found this type of lens particularly advantageous and capable of meeting all demands. Polo players at Newport were caught in action, riding at full speed after the ball, a hundred yards away, without the trouble and danger of going out into the open and into the track of the madly rushing ponies. At the horse show, high jumpers clearing a five-foot hurdle were easily caught. Negatives of parades and of the marching maneuvers of five hundred apprentice boys at the United States Training Station, Newport, are typical and show conclusively the great depth of field which the lens possesses. In one of them the harbor and city in the background are clearly brought out, although a mile or more away. The picture of the moving throng of the thousands of people



NEWPORT BEACH (Stop f-12, exposure 1/100 second)

on the Board Walk at Newport Beach also affords an example of speed pictures that are characterized by great depth of field and good perspective.

The Telecentric lens is a most valuable addition to my equipment and it is one that must likewise appeal very strongly to all serious workers, especially those engaged in securing wild animal, big game, marine, and various other sporting illustrations. The worker with even the most superficial experience cannot fail to realize the advantage of a fast lens, giving good definition, yet having the power to give an image much larger, or of securing an image of the same size from a greater distance than heretofore. The details concerning the making of the several negatives are given below the illustrations and will prove of interest, I believe.

Graded Sky Screens a Delusion

By H. D'Arcy Power, M. D.



Over a year ago the English photographic press was engaged in a hot controversy as to whether or not a graded sky screen was of any use in obtaining cloud and landscape on one plate. An enthusiastic and talented American photographer had written a letter lauding the wonderful effectiveness of such a screen in his hands, whereon the optical experts joined in horrid war, demonstrating with formula and diagram that you could and you couldn't. It was very hard for a simple worker to follow; but, if my memory serves me aright, when the ridiculous mountains had done a-laboring, there were no mice, only a muss; but some one conceded that a graded screen behind the lens might reduce the strength of the light from the sky. All these dogmas were deduced from the inner consciousness; the mathematical optician never condescends to try out his laws with lens and plate, but I expressed a resolve to submit the problem to such a common-place test at some future time. At a later period, another worker brought the matter to my mind by writing how he had obtained both clouds and landscape by pasting strips of black paper across the lower half of the back of his lens. Here was the graded screen in another form. This idea I tried out, using a semi-circle of thin metal cut into bars and spaces, considerably reducing the light passing out of the lower half of the lens. A landscape with clouds was taken with, and again without, this screen, the screen negative giving a decidedly better rendering of the clouds. Whereon, I became prematurely enthusiastic and launched out into roseate promises to my friend the editor concerning the improved form of screen I was about to devise.



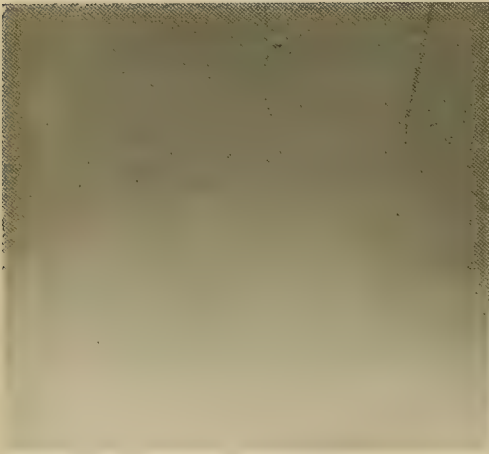
Forthwith I commenced experiments with various kinds of screens, perforated, barred and slashed like a comb. Several of these are shown herewith. All seemed to give some improvement over the unscreened lens, but as I worked further it seemed to me that it was rather the effect of a short or much-stopped-down exposure than a genuine differential grading of the sky. Finally, I did

GRADED SKY SCREENS A DELUSION

at last what I ought to have done at first. Instead of exposing on an unevenly illuminated surface, such as land and sky, I exposed two plates on the same patch of sky, one through an open lens, the other through the lens with the back covered by a semi-circle of cardboard. This should have given sharp grading over the upper half of the plate. It did nothing of the kind, the only difference between it and the plate taken with the unscreened lens was in the general density. Only half as much light reached the plate and it was correspondingly thin, to make doubly sure, I tried the same idea in a different form. I exposed on a large sheet of white cardboard that covered the whole field of the lens whereon I had fastened two pieces of printed matter, one on the upper edge, corresponding to position of clouds in a landscape, and the other near the lower edge, corresponding to foreground detail. The plates, one through the open, the other through the screened lens, showed no difference except in relative density. Now it is perfectly clear that if an entire blocking of half the lens is ineffective, the much smaller screening of graded glass or partial occlusion with paper strips must be equally so. No screening near the lens, either in front or behind, has any effect beyond reducing the total illumination, and equally over the whole field. Nevertheless, I believe—nay, I am sure, a graded screen capable of giving clouds without loss of light in the foreground, is quite possible. A piece of gelatine-coated glass of the same size as the plate, clear in the upper two-fifths, progressively dyed yellow over the lower three-fifths, and fixed in the back of the camera close to the plate, would undoubtedly cut out the excessive light from the sky and give clouds and landscape together. The whole discussion and my own work thereon only convince me more fully of the need of testing out every statement by rigid experiment. General impressions and theoretical deductions, if not strictly verified, only lead to disappointment and waste of time.

Since writing the above lines I have tried out the graduated screen near the plate, made the plate screens by reducing out a thin negative, and then washing and dyeing it with auramine. This is not easy, unless one has learned how by a little practice. If the gradation is at all steep or the least irregular, it will show on the negative; so also will dust. The following technique will assure a correctly graded screen: Thoroughly wet the plate to be dyed and wash off any trace of adherent dust; pass it once and only once through the dye; then, holding it by the edges vertically, dip again up to the intended sky line, and repeat this partial immersion as many times and to such varying depths as seem necessary to obtain the desired depth of tone and evenness of gradation, taking care that each dip falls a little short of the last. Then drain five minutes, sky end downwards; wash under the tap, letting the water continue to flow over the foreground part only until the dye is practically washed out of that portion. Place on a shelf against the wall, and, resting on blotting paper, stained area downwards, with the film surface towards the wall. In this manner perfect gradation can be obtained. When dry, mark the extreme corners of the stained end with a drop of India ink. This will enable one to correctly place the screen in relation to the plate in the dark room; in red light it is not

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A WELL-GRADATED SCREEN



AN IRREGULAR GRADATION

possible to distinguish the stained from the unstained end. When once started, a dozen such screens are easily made. They are placed in the holders, face to face with the plate, stained end downwards. They give good results, as the



MADE WITHOUT GRADATED SCREEN



MADE WITH GRADATED SCREEN

accompanying illustration show. Whether the trouble is justified, as compared with the use of orthochromatic plates and a lens screen, is doubtful, except perhaps, for some subjects when foreground orthochromation is undesirable.

The mission of art, music and poetry is to express and reveal, with a beauty beyond our own attainment, what we feel, what we love and what we hope for. Many, or most, of us are capable of great feeling, but to few has been given the power of great expression.

16th Annual Convention, N. W. P. A.

Secretary's Report



The Sixteenth Annual Convention of the Northwestern Photographers' Association, held in Minneapolis, August twenty-ninth to thirty-first, inclusive, was a decided success in every respect except in the one item of number in attendance. This last was not a serious falling off, but simply the expected result of the recent death of our worthy President, W. E. Butler, and the attending of the National Convention by many of the members. Those who were in attendance were all live and progressive members of the profession who came with the intention of learning something—and they did.

Juan C. Abel, as usual, was most interesting and instructive in his talk on advertising, all of his hearers being well rewarded for the close attention which was given to his talk. "Daddy" Lively was at his best; making some beautiful autochromes by flashlight and delivering a lecture that was a talk right from the shoulder, the kind that made every photographer feel a new pride in his profes-



PICTURE WINNING LOVING CUP
SIXTEENTH ANNUAL CONVENTION N. W. P. A.
BY J. C. JANSSEN, FARGO, N. DAK.

sion and a desire to reach a higher standard in his work. Louis Dwarghak, of Duluth, gave a fine demonstration and talk on operating. B. C. Golling, of St. Paul, gave a talk on home portraiture, and many others gave of their experience and talked most helpfully on various subjects.

The reception and entertainment committees were active and effective; the lunch, the cigars, and the grand ball at the close, testifying to the attention that was given every detail. When the final curtain was rung down, the members threw their hats in the air and left for home with a happy feeling that the time had been well spent, that the hours had been profitable and happy ones.

Officers elected for the coming year are as follows: President, C. H. Galbraith, Minneapolis; Vice-President, Captain John Phillips, Stanley, Wisconsin; Treasurer, S. E. Johnson, Minneapolis; Secretary, R. W. Hyneman, Eden Valley, Minnesota.

The next place of meeting is to be in St. Paul, Minnesota, in 1914. No convention will be held in 1913 on account of the National Convention being at Kansas City that year.

The awards were as follows: Diamond Medal, J. I. Cones, San Antonio, Texas; Grand Portrait, J. E. Passenault, Williston, North Dakota; Home Portrait, B. C. Golling, St. Paul, Minnesota, and Enlarging, J. C. Jansrud, Fargo, North Dakota.

C. H. GALBRAITH, Secretary.



A CONVENTION PICTURE, By GALBRAITH

A bit of work of the highest quality is a key to a man's life, because it is the product of that life, and it brings to light that which is hidden in the man as truly as the flower lays bare to the sun that which was folded in the seed. What a man does is, therefore, an authentic revelation of what he is, and by their works men are fairly and rightly judged.—HAMILTON WRIGHT MABIE.

Taking a "Movie" in Arizona

By Ina L. Cook



With Illustrations by the Author



THE CAMERA MAN

DOUBTLESS Mr. Fielding, of the Lubin Moving Picture Company, would not have told me if I had asked him, what the plot of this particular great historical moving picture drama was to be. So I did not ask him. It would probably have been against professional ethics to have given the information. It was evidently some wild and lurid tragedy, with Indians and soldiers and thrilling hair-breadth escapes of nerve-racking tensiety, the kind that keep the emotions on tap.

The company is stationed at Tucson. "This," says Mr. Fielding, "is the ideal place to get pictures. There is no other situation in the West so well fitted for this kind of work. If I want to get pictures of the old town in its former frontier days, all I have to do is to go down on Meyer Street. If I want something modern, all I have to do is to

take the machine and company to the newer residence or business sections. The scenery lends itself well to all kinds of Western pictures."

So, as he wanted material for the first of a series of pictures representing an old-time gold rush into the mountains, he asked the citizens and population of Tucson to participate by coming in suitable dress and bringing their burros, pack mules, horses, wagons, mining equipment and everything they could rake or scrape up, necessary to give the appearance of a crowd of people hurrying to the new diggings. The inhabitants, being large hearted, generous people, acquiesced, and on a bright Sunday morning, some four hundred of them assembled, a motley concourse, in front of the Chamber of Commerce, and then headed by a great band of pack mules, started pellmell down the main street and out to the hills. It was one hundred and two in the shade.



THE LINE-UP BEGINNING TO ARRIVE.

About a mile and a half from town, in a draw between two tall peaks, where the scenery was wild and rugged, the company halted. Tents had been put up to represent a camp; at one side were the round brown military tents. A long procession of men in picturesque costume, leather and skin leggings and all, mounted on horses and burros and leading pack mules, started up a trail leading around the mountain, and then waited while another long procession of men, wagons and camp and mining outfits started up another. A great throng in the middle distance was busy digging, building camp-fires, and all laughing and joking. They were a jolly crowd. On the slope of the hill opposite, amongst the cacti and mesquite, the camera people were reconnoitering for the best point from which to open fire. Tourists and other curious animals stood around, almost roasting under the sun, which had also taken on a burning zest. Some sought the friendly shade of a saguara or a tent.

IN CAMP
514

TAKING A "MOVIE" IN ARIZONA



THE START FOR THE DIGGINGS

Mr. Fielding sat sidewise of his horse, issuing directions on all sides. His voice could be heard a long distance, no megaphone being needed in that clear atmosphere. Finally he called out:

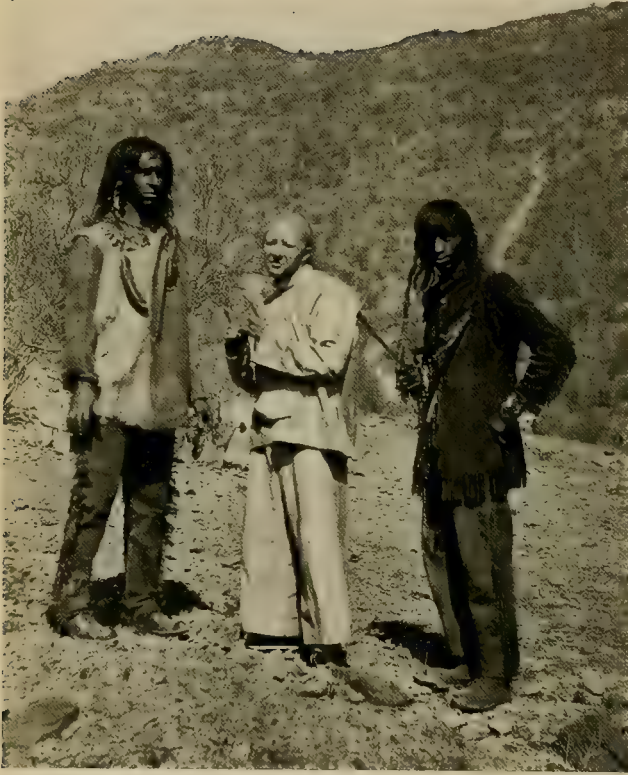
"When I wave my hat, everybody move!"

There was silence on the mountain. Every one stood tense, expectant, every eye fixed on the alert figure on the horse on the opposite hill. Suddenly he seized his hat and waved it:

"Everybody move!"



MR. FIELDING DIRECTING AFFAIRS



THREE OF THE ACTORS

And everybody moved. Such bustle and excitement! Teams were beaten and started over the rough, rocky roads. Horses felt the spur; burros felt the lash. Clouds of dust arose. The long pack-mule trains started climbing laboriously up the steep mountain trail. Pickaxes rose and fell. Men and women rushed hither and thither in their apparently mad search for gold.

"Umbrellas down!" was the next command following quickly on the first. Regretfully thinking of bare head and neck, I lowered my parasol.

Then there was trouble in the camera crowd. The numbering machine or some part of the moving-picture outfit was missing.

The handy man was ordered post haste back to town to get it.

"Where's the key? How can I get in?" asked the man.

"The key!" cried Fielding. "Get in some way! Smash a window! Hurry up!"

Off went the man in the auto and was back in fifteen minutes.

Then the camera was moved to another part of the hill, facing a road. The long procession was ordered to pass along the road.

"Hurry, hurry along there," yelled Fielding. "Come on! Hurry up! Don't look at the camera as you pass! Come on! Come on! Hurry up there! Don't look at the camera!"

Along they came, galloping, stumbling, by twos and threes and fours and fives, the burros wondering what all the fuss was about,—Indians, Mexicans, white men and women in leather trappings and picturesque hats, teams of mules drawing the old wagons filled with mining and camp supplies, all looking very business-like, to say the least.

"Hurry up—you're too slow! Hurry up! Come on there! Don't look at the camera!"

For, of course, as you will see, when you see this picture thrown on the screen in some "movie," there were a few who could not resist that temptation.

How a Good Customer was Lost

By Walter Jack



"Six weeks before the holidays I took my children to the photographer, posed them for pictures, paid in advance and was promised them early for Christmas, and now February is well advanced and I have heard nothing from the artist. Will I go to him again? Well, I guess I don't." This was the reproachful remark made to my wife, regarding a certain photographer.

When a business is sold, in addition to the equipment there is a certain element which commands a cash value, and that is good-will. In a well-systematized studio where work is done on time, good-will is worth more than equipment, and will command a higher cash value. How much is the good-will worth in this mentioned business? It is worth nothing. It is not an asset, it is a liability. There are hundreds of photographers that are doing business in this manner. I consider there are as many negligent in photography as in any other profession.

I learned by connection of several years in another line of business where competition was keen and where work must be done on time, or a little ahead of time, that in practically every line of business, celerity and service are essential to business success. I am not aiming this article at the city artist whose work is brought up to a merited standard of efficiency by competition, but the photographer in the small city and the country village. By inspecting his work, by inquiring into his business methods, I find there is yet great room for improvement. Some may query the reason for this lack of business methods. The reasons are about the same everywhere I have observed. The photographer has the feeling that he must "go slow." He does not care to overstock with the latest in material and equipment. When a customer visits his studio and asks for something special, he accepts the order. He intends getting a supply of mounts and paper; another customer orders something similar, the matter of ordering slips along, and the longer it is delayed, the easier it is to put off the job. After a couple of months have passed, the photographer is ashamed to meet the customer on the street and the customer has the full determination not to meet the photographer again at his studio. Perhaps, on demand of the customer, the pictures are completed on substituted stock at an unsatisfactory date. I remember how vexing it was, in a recent experience, to wait on a "slow" photographer. A member of the family married. He promised photos of the bridal couple. He had the exposures made in his local gallery, and it ran along three or four months before we had our anxiety satisfied. The photographer turned out other than an enthusiastic booster of his studio. We had urged that the pictures be taken at our regular gallery, but interest in the town where the groom was located prompted him to submit to such business vandalism.

I consider photography a dignified business, a money maker, one with quick and ample returns compared with other business enterprises; and it costs but little aside from experience, to enter it. One should be prompt and business-like. The photographer should not "take a back seat" to the editor, minister, teacher, attorney, or any of the other business men in the town. The photographer can learn a few lessons from the newspaper reporter in his fight for scoops and scoop pictures. If business does not come to the studio, he should go after it, fight for it. Professional men, manufacturers, salesmen, those engaged in all lines of endeavor, exert more or less effort for increased business. Get the business and then be prompt in its execution and delivery.

Because of the volume of business, the camera man who hits the country fairs is the object of envy of many photographers, as likewise is the itinerant view specialist, but these men are working along the channel of well-established business principles—that of doing business on the spot and getting the money. They get some business from the established photographer, and defects in their pictures are overlooked in view of their dispatch. I know that all photographers are in business for the money there is in it. I used to be when I "toted" a camera around. Then one should equip himself with the goods, work a little later at night, use the tank, the printing machine, and a few other up-to-the-minute improvements, and read the advertisements for others, to keep up in the game. Too, if one has not the money, and it is not in sight, he can borrow at the bank, mortgage the equipment, get some friend to sign the obligation, and business is sure to come if he will only hustle. Get the goods, deliver the goods, and the business is won.



Timing Tank Development

By Professor John Fulton



So many amateurs now use the tank method of development that any little assistance in minimizing possible causes of annoyance should prove of some benefit to the brethren as a whole; that is, a suggestion that might seem insignificant or needless to one, when given to a large number might have the merit of almost general interest. At least a few are liable to be benefited.

It is an easy matter for one to forget just when a roll of film is placed in the tank, with the consequence that one's anxiety will nearly always lead him to remove the film before the necessary time has elapsed.

To overcome this loss of time, material, and self-respect, I hit upon the following idea, one which is not original as nearly all aneroid barometers are fitted in the same way. But I hit upon the idea of applying the same convenience to a cheap clock.

TWO EFFECTIVE UTILITIES

I purchased a cheap alarm clock, one costing a dollar, took out the glass front and bored therein, getting it directly in the center and of a size to just accommodate the short, hollow stem of an extra minute hand. This minute hand I secured from my friend the jeweler, selecting one that belonged to a clock having a face of about the same size as the cheap clock. The hole is best bored with one of these little bevel-gear braces and a bit such as is used for boring holes in iron. Heat the tip of this bit until the temper is drawn, then warm up again and place in a little lard, or in a mixture of equal parts of lard and beeswax. If you can't do it yourself, have a blacksmith or machinist friend do it for you. The bit, of course, should be the same size as this stem of the minute hand.

The bit properly hardened, the center of the glass is the next thing wanted. This is found by placing the glass on a piece of paper, drawing a line around it, cutting out the circle so marked quite accurately, folding this last first in half and then in quarter, and then placing the folded segment on the glass and, after adjusting, marking the position of its point. In about a teaspoonful of turpentine place a piece of camphor about the size of an uncooked bean, and use this, drop at a time, on the glass, taking care not to press too hard on the bit. Hold the drill steady with but slight pressure, and a hole will result from about two minutes' boring. With a little care, stellation of the glass on the under side, as the bit goes through, can be avoided. If the hole be not perfectly straight or a trifle too small, a rat-tail file and some of the camphor solution will remedy matters. Work easy and get the hole so that the stem of the extra minute hand will make a nice turning fit. Replace the glass with the stem of the extra minute hand fitting neatly in the hole and the timing device is ready.

The next time the tank is being used, make the solution of the right temperature, place it in the tank, drop the apron and film, set this extra minute hand ahead the desired number of minutes, and then take matters easy until the time is up as indicated by the regular minute hand of the clock coming up with the one that turns independently and has been set ahead.

Two Effective Utilities

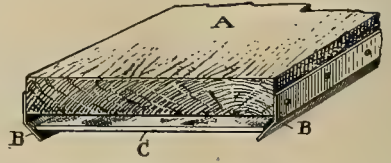
Thomas H. Holmes



Harry A. Johnson, a Canadian reader, suggests that we repeat, for the benefit of our new readers, the directions that appeared in our pages some three years ago for making a floating washer for plates. As the article, together with the illustration, was copied and translated into many of the foreign magazines, the device described evidently possesses merit sufficient to warrant our repeating the description. The same reader advises our incorporating therewith another which he gives, one covering the use of cork clips for floating prints in wash

water. As the last utility was also described in our pages, about a year earlier, by the same writer, Thomas H. Holmes, we will simply quote his descriptions of the two utilities.

My method of washing, he writes, is nothing more than floating the plates, film downward, in a tank or bathtub in which the water is at least several inches deep. Naturally, glass plates will not float; so to overcome that difficulty I cut a dozen blocks, A, from some white pine or other light wood, making them one inch thick and a little larger than the size of the plates. To each of the two longer sides I fasten, using brass brads, a thin strip of copper or zinc, B, about one inch wide, and a trifle shorter than the side of the block on which they are tacked. More than half the width of the metal extends below the wood, and this portion is bent towards the center of the block at an angle of forty-five degrees. This forms a pocket, as shown in the illustration herewith, into which the negative, C, is placed as it comes from the fixing bath. The glass side is placed upward toward the under surface of the block, and the whole floated upon the water, plate downward.



The hypo will be washed out of a plate so suspended in a very short time; and, in addition to the small cost of the device, there is absolutely no danger of grit or sediment settling upon or adhering to the wet film. If by chance the water should drain away, the projecting metal edges will prevent the film of the negative from coming in contact with the bottom of the tank or bath. Since using this device, I have abandoned my several expensive washing boxes.

My new acquaintance uses, says Mr. Holmes in his earlier article, for his print washing, several dozen common bottle corks, about one inch long by three-quarters of an inch in diameter at their larger ends. These corks had been split lengthwise, after a V-shaped cut had been made in the top, and a common rubber band held the two halves firmly together. This formed a clip, and by pinching the top the V-shaped notch closes and the lower jaws open to admit the white margin of a print, and, upon releasing the pressure, the rubber band immediately caused the lower jaws to close and grasp it firmly. One of these cork clips is snapped onto each print as it is dropped into the water,—about twelve inches in the bottom of the bathtub,—where it floats on edge and near the surface, much like a plate in a grooved box.



My friend merely takes advantage of the well-known fact that the hypo is removed from the prints by dissolution; and that hypo solution, being much heavier than water, accumulates at the bottom of the tub while the prints remain suspended in clean water near the surface.

This method of washing prints has many advantages over any others I know of; the prints cannot sink and collect in a bunch on the bottom, nor is there any danger of the corners of one print injuring the face of others. There is no rapid motion of water, and the prints require no attention whatever until removed, other than to once or twice, at intervals, pull the plug and drain off the bottom inch of water containing the heavy hypo solution.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

A CORRECTION: In this department, on page 420 of the September issue, was given a formula for removing drying marks. The first item in the formula should read potassium bichromate instead of potassium bromide. Rightly, it reads, for the bleaching solution, as follows:

Potassium bichromate	30	grains
Potassium bromide	15	grains
Water	3	ounces
Nitric acid	$7\frac{1}{2}$	minims

Despite our best care, mistakes will sometimes occur; and, while we regret the need of such kind offices, we cannot help but feel gratified to find this department so closely followed. The mistake was really a double one, as the same paragraph was printed in an earlier issue and later corrected as above. Looking up the original at that time resulted in its again going to the printer through an oversight.—The Editor.

MAKING UP DEVELOPERS: The amateurs as well as the professionals are unconsciously using a lot of guesswork in compounding their chemicals when using only their scales, no matter how careful they may be. In making solutions of sodas, either sulphates or carbonates, by weight, the worker should first find out the strength of each chemical by hydrometer test. For instance, using a well-known brand of sodas, I find that one ounce of carbonate in sixteen ounces of water will test twenty by the hydrometer and three ounces of sulphate of the same brand in sixteen ounces of water will test one hundred. Of other popular brands of sodas, three ounces of sulphite in sixteen ounces of water will test sixty and carbonate of soda will test thirty. And so it is with the different dry sodas on the market, they vary greatly in strength. If the worker pretends to go by scales, I would recommend that he use the hydrometer until he gets the amount he uses correct by weight. To do this, take sixteen ounces of water and weigh into it enough sulphite to make it test sixty by hydrometer, keeping tab of the exact weight of the soda used. Follow the same plan with the carbonate, getting the weight required to test thirty. In using pyro developer, if too much carbonate is employed the highlights become too dense, giving trouble

CAMERA CRAFT

when one prints on developing paper from studio negatives. Pyro seems to be still in the lead on account of the good printing quality of the resultant negatives and it allows one to use a large quantity of water with a minimum amount of chemicals, keeping the highlights from becoming too dense. For tray development of studio negatives I use, in summer, four times the amount of water that the plate formula calls for. For tank developing I use the Seed, Cramer or Standard formula. When my tank gets dirty, which it does in a very short time, I clean it with a solution composed of three ounces of acetic acid in six ounces of water. This is used on a swab made by wrapping a soft piece of cloth around the end of a small stick for a handle. Using this as advised, the worker will be surprised at the amount of black sediment he will find in the water after a thorough scrubbing. Water is run through the tank for an hour or more, and I then have no more trouble from stained negatives, at least for a time.—G. S. Smallwood, Illinois.

EMERGENCY WEIGHTS: Recently I had occasion to weigh out fifteen grains of metal to make up a developer. I discovered that nothing smaller than a two-scruple weight, forty grains, was on hand. In casting about for something that might serve, my eyes fell upon a box of little wire nails, about six-eighths of an inch long, used to fasten the backs in small picture frames. I put my two-scruple weight on the scale and found that sixteen of these small nails would just balance it. It was then an easy matter to figure out how much each nail weighed, which, of course, was exactly two and one-half grains. Six nails equaled fifteen grains and my problem was solved. Of course other things could be made to serve, for instance a piece of wire, a cardboard or anything that could be cut or divided into small, equal parts.—Carl Bergmann, Washington.

FIREPROOF MUSLIN: Used for shields, bags, etc., when making flashlight pictures:

Alum	8	ounces
Carbonate ammonium	2½	ounces
Boric acid	1½	ounces
Borax	1¾	ounces
Water	2½	quarts

Soak fabric thoroughly in above, drain and dry, but do not wash fabric.—Louis S. Todd, Michigan.

CLEANING TRAYS, ETC.: My general cleaner is well-diluted muriatic acid. For cleaning trays and bottles that have contained sodas and developers, it is excellent. After use, rinse thoroughly and they will be absolutely clean. The acid is very cheap, one getting about four ounces for five cents.—Louis S. Todd, Michigan.

COLD VARNISH: Negative must be thoroughly clean and dry.

Benzine, chemically pure	10	ounces
Gum Dammar	1	ounce

Apply in usual way, but without heating the negative.—Louis S. Todd, Michigan.

CAMERA CRAFT

A PHOTOGRAPHIC MONTHLY

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San Francisco, California, November, 1912

No. 11

Having a Motive in View

We have just written a long letter in reply to an inquiry from one of our old subscribers who asks us to suggest a poem that could be illustrated by a series of photographs, the writer wanting some point to work towards rather than follow his present plan, which is rather an aimless taking of pictures of this and that. His desire, his ambition, is a most commendable one. However, the plan of illustrating a poem is one that several of the editors of the older photographic magazines made quite a hobby a number of years without anything coming of it. Just as a suitable poem is to a great extent idealistic, so the illustrations must be, and it is hard to idealize our available landscapes and figures by means of the camera. We have recently had the pleasure of seeing a moving picture intended to illustrate the story of Ramona, a picture made on the grounds and with some of the characters who actually figured in the story, and while the film is an excellent one, carefully worked out as to scenes and incidents, it lacks much of the charm and feeling that the story itself conveys. In fact, seeing the picture decreases rather than increases one's appreciation of the story except as the picture gives a feeling of reality to it. And the photographer must admit that the moving-picture artist, with the advantage of living and moving subjects and constantly changing effect, and often with the advantage of trained actors and efficient stage management, has a decided advantage.

On the other hand, there is a class of subjects that the amateur entirely overlooks, and a class in which he almost always has the advantage over either the moving-picture man or the artist in any other medium. We refer to the typical inhabitants of any particular section of our country. The amateur lives among these people, knows them intimately, or at least can cultivate them quite easily. How interesting would be a series of pictures showing the daily life of any small farming community, and such scenes are available to all of us. The fisher folks, the timber jacks, the fast passing cowboys, the hunters and trappers, and hundreds of others. Not long ago we had the pleasure of seeing such a collection of pictures covering so prosaic a theme as the everyday employment of a street car conductor, pictures made by one of their number. There was one of the car leaving the barn, another of the same car wending its way through a delightful bit of suburb, a third showing the same car crowded to its full capacity in the busy downtown district. There were groups of the platform men waiting around the starting point for their cars to go out. There was

one of a conductor taking the names and addresses of the witnesses to a small accident involving the bumping of a fruit cart that had been too slow in getting out of the way. One picture showed a conductor on his way in the fog of an early morn, stopping to compare his watch with a regulator in a jeweler's window. And so on through quite a list. In an Eastern city where a greater variety of weather is experienced the series could be indefinitely extended because of the added variety of incidents introduced.

The above is not mentioned as an example to be followed or as a suggestion as to the best field. It is merely given to show what can be done with what would seem, to a city resident, to be a most uninteresting subject. And any particular class of subjects is apt to seem uninteresting in inverse ratio to its common-place aspect to the photographer. The amateur in the country has no appreciation of the every-day scenes about him. If he does photograph a barn, it must be one of the finest in the county, with the owner, dressed in his Sunday best, seated behind his favorite team. He does not see that the entire feeling of farm life is lost, that he has selected a type far from typical, a subject entirely lacking in interest. Let him turn to the illustrations of any story that appears in the popular magazines and he will learn much as to what is desirable. Hardly an example of such illustrations but what contains valuable hints for the man who sets such a task for himself. Try something of the kind and you will find your interest in your photographic work to grow as the months pass. Every new negative will increase your interest and every new subject will add to the value of every other picture in the collection. Try something of the kind and you will be surprised at the interest the work will arouse, not only in yourself, but in the eyes of your friends.

H. L. Richardson Here

"Rich," the name by which he is generally known, called at our office while in town recently, taking time from his busy order-taking to do so. Genial as ever, his motto still, *Ut ameris, amabitur esto*, his cheery visits are always enjoyed. He told us how much greater the business in Premo cameras in his territory was for the past six months than for any previous like period; in fact, almost convinced us we should rush out and get one before it was too late. We have forgotten his exact figures, but they gave us a new impression of the necessary dimensions of the Premo factory.

James H. Smith On the Coast

James H. Smith, of the James H. Smith & Sons Company, Chicago, called in just as we were going to press. He reports sales of Victor powder as still increasing with the most gratifying persistence. He will spend a few days here, going to Los Angeles, then further south, and thence home to Chicago. Mr. Smith has found a keen appreciation of the new Victor which preceded his visit, and this, of course, is resulting in very heavy orders. While the trip is not a business one, he will call on such of many friends in the trade here as his short stay will permit.

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Color Prints On Paper

At last there is a promise of a successful transference of prints from a screen color plate, such as the autochrome, to paper. Although the Uto paper has been greatly improved, the specimens we recently inspected had no real values as pictures, and a bleach-out paper, rapid, accurate and permanent, seems yet a long way off. The new solution is much more promising and easily explained. If we take a fully developed lantern slide and lay it on a sheet of paper, it would show up very poorly on account of its density; but if we use a very weakly printed slide and bring it in close contact with paper, it will give a bright and strong image by reflected light. Clearly, if we could transfer the gelatine bearing image, as by a stripping plate, to paper it would give us a good print. Now, what can be done in black and white can be done in color. If we could make an autochrome as transparent as a thin lantern slide and then transfer its whole film to paper, we should have a color print. With the autochrome as at present made this is impossible because the starch screen, when stripped of emulsion, is too dark to pass enough light to make a reflection from a paper substratum. With the diophtichrome it is just possible, with a very weak image; but with the new color plate recently devised by the Paget Company, this is possible and seemingly easy. This new plate was thus described by the demonstrator at a recent exhibition in London:

With regard to the method of making screens, I think I am right in saying that we go about it in exactly the opposite way. Other makers apply the color or dye to the plate in portions; we dye the whole plate one color, then bleach out two-thirds of this color, then dye the remaining clear spaces another color, take out half of this second color, and, finally, fill up the rest with the third color. I think I can make my self clear by means of illustration:

Firstly, we dye our plate, say, red, then cover portions of it with a resist which protects the color immediately below it. Then we bleach out the color that is not protected by the resist. The result of this operation is shown by the slide you see before you. This red color now occupies one-third of the total area of the plate. Then we dye the remaining clear spaces with the second color, say green, again cover portions with the resist and again bleach out. This slide shows the result of the operation so far. Now, we have a plate one-third red, one-third green, and one-third clear glass. All that remains to be done now is to dye the third portion up blue and the screen is finished, as you see by this slide.

You will observe that there are two blue squares to every red or green one, but the blue squares are of such a size as to render the plate dyed blue to the extent of one-third of its area.

Now, this method of dyeing the plate absolutely excludes the possibility of the colors overlapping each other, and this is an extremely important point, and one that is overlooked in some of the other makes of screen plate. The other chief advantage of our screen is the transparency. Now, I may say that there is no medium more transparent than a thin film of collodion, and this is what we coat our glass with in order to enable the plate to be dyed. So that in this respect we get the maximum of transparency. You will understand how important this is when I remind you that each color in our screen occupies one-third of the total area, so that at red light, for instance, is trying to get through the screen only one-third is transmitted, that is to say, through the red dot, and two-thirds is obstructed, namely, by the green and blue dot or square.

Now you will see how important it is to have the red and green and blue squares so very transparent because in any case they obstruct two-thirds of the light falling on the

plate, and if there were any opacity in the squares themselves how much more light still would they impede! This transparency of the screen not only enables the final slide to be sparkling and brilliant, but it means also that the original exposure in the camera is so much shorter. With regard to the finished slide, we can use almost any light that is stronger than an oil lamp for the lantern, and can so produce our slide that it is of the correct density to suit the particular illuminant employed.

These plates are made by first making a color negative from which any number of colored positives can be printed by contact. The latter are then transferred to sheets of silver paper, which, from their higher reflective power, gives better results than white paper. The *British Journal of Photography*, in commenting on the new method, says:

As regards the results which we had the opportunity of inspecting at the Paget Company's works, they will, as we have said, be on view at the R. P. S. Exhibition, most of them have been made by the color staff in the course of working out the process, and with viewing-screens of the paler type, which have not so far been absolutely standardised for the method. In some examples it is clear that the color rendering would benefit by a more exact balancing of the colors used for the units of the screen, but the success attained even at this early stage is sufficient to show that in the new method they have succeeded in producing a process which is the acme of ease and simplicity in working, and is evidently capable of producing results of considerable merit.

The Best Print for Half-Tone Reproduction

In view of the prevalent misconception that prints for half-tone reproduction should be on printing-out paper, the following excerpt from a lecture by W. J. Casey, a well-known technical expert, is useful. He said:

A very important part of the work done by commercial photographers is for the purposes of half-tone reproduction. Much of this will have to be done in bromide because there is not time to do otherwise, but it will be found that where the order is not so urgent the engraver will frequently ask for printing-out paper in preference to bromide. On the face of it, a good bromide is capable of rendering

all the detail in the negative, and more than that cannot be expected, and certainly the color in the printing-out paper is more likely to prove a hindrance than a help. I have asked an engraver friend of mine for an explanation of this demand for printing-out paper, and he says that it is largely a survival from the time when many photographers were unable to supply a good print in bromide and yet were able to give one in printing-out paper, as that is, or was, the one they were using in connection with their studio work. In preparing our own originals for half-tones in the booklets we issue, I like to use one of the semi-glossy bromides, I mean the surface of which Kodak Velvet may be cited as typical. The half-tone illustrations in the paper advertisements in the trade journals are from originals made on their carbon bromide, and certainly they leave nothing to be desired. However, the photographer must follow his client's instruction, and if printing-out paper be specified his print must be on that paper. The pink grade which is largely used in portrait work must not be used, as the pinkness of course means a degradation of the highlights when reproduced.

Modified Farmer's Reducer

In reducing by means of hypo and potassium ferricyanide, a distinct gain in quality results from the employment of the acid-hypo solution. The negative is better in general technical quality as well as in color. Unless the degree of reduction is great there is an entire absence of the yellow discoloration which almost always results from the employment of hypo and ferricyanide. In addition, the yellowness of the weak shadow details and their broken character, which form one of the weak points of this method of reducing, are almost entirely avoided. With a small or moderate degree of reduction only the quality of the negative remains the same as if it had not been reduced.

The substitution of the acid-hypo solution has no effect on the gradation. The action of the reducer is, in this respect, the same as when a plain solution of hypo is being used. The shadows are reduced considerably more than the stronger tones, the extreme shadows being cleared and all the weaker tones reduced in strength to a marked degree, with only a slight loss of strength in the highlights.

A PHOTOGRAPHIC DIGEST

This effect on the gradation is not modified by variations in the composition of the reducing solution. A strong solution acting for a short time will produce exactly the same result as the same solution diluted would give by prolonged action. Variations in the proportions of hypo and ferricyanide do not modify the result. It is an essential element in this reducing bath that there should be an excess of hyposulphite, and, provided that that condition is ensured, differences in composition simply resolve themselves into variations in strength.

The most satisfactory method of preparing this reducer is to make a stock solution of—

Potassium ferricyanide..... 1 ounce
Water, to 9¼ ounces

Ten minims will contain one grain of ferricyanide. This solution will keep indefinitely.

To prepare the working solution from ten to sixty minims of this solution are added to two ounces of the diluted acid hypo, prepared as follows:

Hypo 1 pound
Potassium metabisulphite 1 ounce
Water, sufficient to make, 32 ounces

The smaller quantity should be used if slight reduction only is required; the larger, if considerable reduction is necessary. The working solution should only be prepared at the moment that it is required, as it deteriorates very rapidly; and a weak solution deteriorates more quickly than a strong one. But, as reduction in a strong solution may be so rapid that it is difficult to control when only a slight reduction is desired, it is preferable to employ a weak solution.

In any case, the negative should be soaked in water for an hour before reduction is commenced, and then the solution poured on, and the dish kept rocking during the operation. The plate should be examined from time to time, and if the progress is too slow, more ferricyanide may be added. It is, however, very undesirable to reduce quickly by any method, as the work may progress too far before the action of the solution can be checked. A little before the desired degree of reduction is reached the plate should be withdrawn from the solution, washed rapidly in two or three changes of water, and then placed in a diluted acid hypo bath, in which it should remain for ten to fifteen minutes. This fixing bath should be composed of one part stock solution to three parts water. The

plate should then be washed in the usual manner.

It is imperative that a fresh reducing solution should be prepared for every plate; and it is essential that the hypo should not have been previously used for fixing. The hypo bath, after reducing, may be used for several plates in succession if they are being reduced together, but not if the bath has to be kept.

Negatives reduced in this manner may be intensified or reduced by any method at any subsequent time. Their condition appears to be equal in all respects to that of plates that have not been subjected to any treatment after development and fixing.—Henry W. Bennett, F.R.P.S., in *Photography*.

Limits of Autochromes in Rendering Color Values

It must be borne in mind that one cannot expect extremely strong contrasts to be correctly rendered in autochromes any more than in the ordinary photographic plate. In the case of a subject with brilliantly lit distance and dark shadows in the foreground, some part must necessarily be untruthfully rendered; at best, one can but effect a compromise and sacrifice the least important part of the color scheme, both in exposing and developing. Blues are generally rendered the most truthfully, and, in the writer's experience, the most difficult colors to render correctly are dark orange and orange red, such as a dark nasturtium or the dark geranium, inclining to deep orange red; the rose-colored geraniums, such as the sweet-scented one, seem to be truthfully rendered, and the exposure which is correct for the latter appears to be quite insufficient for the former, suggesting the hint that, in arranging a group of flowers it is well not to have any of the color of the extreme red end of the spectrum when there are blues and light colors also included in the picture.

This hint is not given on an isolated case, but as the experience of several trials; it must also be remembered that the eye is peculiarly sensitive to shades of green due to natural habit in differentiating them in nature's prolific supply of its thousand shades of this color; consequently a false rendering of green in an autochrome will at once be apparent, whilst that of many other colors of flowers in the same subject will appear quite satisfactory in the result, although possibly not really

true to the tint of the particular specimens photographed; it would seem that these very dark orange and orange-red tints can only be truthfully rendered in quite brilliant lighting, which is generally sufficient to cause over-exposure in other parts of the picture, unless the color scheme is carefully confined to that part of the spectrum from dark green to red.—L. Cust, in *Amateur Photographer*.

Transmission of Light Through Lenses

The paper by R. W. Cheshire, on the transmission of visible light by photographic lenses, which was read before the Optical Convention recently, gives some valuable data with regard to the relative rapidity of lenses, and enables us to gather some more or less definite ideas on the subject. Using the theoretical formulæ given by Mr. Cheshire, which his experimental results show to be very approximately accurate, it is interesting to compare the equivalent apertures of objectives with from two to ten glass-air surfaces. Taking the thickness of each component lens as five millimeters, and assuming the single lens with two glass-air surfaces to be working at f-11, we arrive at the following results:

Sur-faces.	Thick-ness.	Trans-mits.	Aper-tures.
2.....	.5 cms.....	88.8%.....	f-11
4.....	1.0 ".....	78.6%.....	f-10.4
6.....	1.5 ".....	69.2%.....	f-9.5
8.....	2.0 ".....	60.3%.....	f-8.23
10.....	2.5 ".....	52.5%.....	f-7.15

The last column shows the apertures at which the respective lenses all give the same exposure.

It will be seen from this table that the truly equivalent apertures vary considerably, a single lens at f-11 passing as much light or being as rapid as a four-lens system with eight surfaces working at f-8.23. In actual fact the difference is likely to be rather greater, for the glass has a certain amount of absorption at the violet end of the spectrum that is not accounted for by tests with visible light only, and the greater the thickness the greater is this absorption likely to be. Mr. Cheshire assumes the use of filters which cut out the ultra-violet, and so leave none to be absorbed by the glass, but in the absence of such filters, there is no doubt that the result must be affected by the ab-

sorption of invisible active rays. On the other hand, different kinds of glass have differing degrees of absorption, and so it may happen that a four-lens system is made of glass that is more transparent to violet light than that forming the single lens, and in such a case some of the calculated difference is counteracted. If filters are not used it does not seem possible that the actual facts can be arrived at by anything but a photographic test.—*British Journal of Photography*.

Sulphide Toning of Bromide Prints

T. H. Greenall, writing in *Photography*, says: I find that a bleacher containing sodium phosphate (hydrogen disodium phosphate) acts slowly and regularly, and leaves a strong brown image, which sulphides to a much cooler shade than if the print had been bleached with the usual bromide and ferricyanide solution. Such a phosphate bath, which will be found to work very satisfactorily, may be made up as follows:

Sodium phosphate	200 grains
Potassium ferricyanide	40 grains
Water	4 ounces

Thus, then, by using amidol as the original developer of the print, and bleaching with this phosphate formula, a picture of a cool shade may be got by simple sulphiding with sodium sulphide. I prefer this method of getting cool shades to the plan of bleaching the print and then darkening it by a combination of re-development and sulphiding. After bleaching the print in the phosphate bath it may be washed before sulphiding for a long time without there being any perceptible loss of detail. I have had test pieces washing for as long as forty minutes; but in practice, of course, two or three changes of water, occupying about a minute, are all that are needed. Sulphiding the phosphate bleached print with ammonium sulphide makes no difference. The color of the whites are very pure.

Acid Hypo

Dr. Lippo Cramer, in recent experiments, found that acid hypo is retained in a gelatine film more than twice as firmly as plain hypo. In washing plates and papers this should be remembered.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

The Moving Picture Shows

I have often wondered if the average amateur realized how much he could learn from the moving pictures as they are thrown on the screen, if he would but ignore, to a more or less extent, the "dramatic" effect, to the end that the photographic effect might be studied. Most of the scenes are out-of-door ones, and as such contain many pointers that can be applied by the amateur in his own work. The moving-picture operator, or rather, his director, has little consideration for the supposed photographic requirements of atmosphere and light, with the result that some very telling and striking effects are often produced through disregard of what we may think are hard and fast rules. But recently we saw some most pleasing figure studies that resulted from taking two of the characters with the sun low, well behind the figures, but just enough to one side to be out of the field of the lens. As these figures came forward, the lighting was modified by the cutting off of the light at one side by some trees and by a change in the quality of the foreground from deep grass to an expanse of roadway that reflected considerable light. For several seconds the picture on the screen was a most interesting lesson in lighting under various conditions, and a lesson that one could apply in his own work. Furthermore, it was a lesson that the average amateur, except as he be one of those rare individuals who can see the lighting as it will appear photographically, could only secure by taking a number of negatives and making prints therefrom. And one can, by careful observation, learn much concerning the selection of viewpoint for ordinary landscapes and the treatment of the distance. It is quite a simple matter to forget the often rather crude "plot" of the picture play and view the different scenes with an eye only to the arrangement and treatment of the subject. And perhaps the most valuable suggestions to be gained from the moving pictures are those covering the

placing of figures in landscapes. In many of the scenes a landscape is presented with a figure or figures approaching in the distance. It is quite easy to observe the effect of these figures at different distances and at different points and determine, more or less accurately, at just what point they appear to the best advantage, just when they are sufficiently prominent to avoid annoyance to the eye and just when they are not too large to destroy the proper appreciation of the beauty of the landscape by their own prominence. All this, and much else besides, can only be done to the best advantage by first resolving to ignore as much as possible the real object of the pictures, the presentation of the plot or play. The doing of this last is not difficult, and in many cases the loss of the supposed "thrill" is more than repaid by the photographic instruction that can be derived.

Watch the Edges

It is almost unbelievable the number of excellent pictures that are sadly handicapped by the allowing of the edge of the print to cut across some part or portion of the view that is in the nature of a light or white patch of water, roadway or the like. Nearly all of us recognize the objectionable effect produced by allowing the margin of the picture to cut off strong or important lines at too near a right angle, and yet these light patches are fully as dangerous if not more so. And allowing these last to be severely amputated by the edges of the print is more culpable than in the case of the strong lines, for the simple reason that these light masses can almost always be darkened until harmless by being printed a little further, without in any degree destroying the truthfulness of the rendition. The white patch of water is only white in the print because the exposure was of a certain duration at a certain hour. The white patch of roadway is only so because the exposure given for the whole view was not quite the right one for it. But I have neglected to say

just why these amputated patches are so destructive of the enjoyment which the picture might otherwise give. The fault lies in the persistence with which the eye will travel to a point at which there is a sharp contrast of light and shade such as results when this patch is brought against a dark mount. Of course, the contrast of light and dark at that particular point can be avoided by using a light mount, but the patch is only offensive, is only a white patch, when surrounded by darker shades in the picture, and using a light mount only removes the sharp contrast of amputated light against a dark field to other points above and below where the surrounding dark is amputated and contrasted with the light shade of the new mount. In any case there is a "chopped-off" effect that will persist in compelling the attention of the beholder to the detriment of the subject matter of the picture. The real picture is one that the beholder can enjoy without any thought or feeling that what he sees is confined within any boundaries or limitations such as the edges of the picture space. Any picture that allows the elements of which it is composed to draw the eye to the edge and there obtain an impression of something being cut off is a failure to just that extent. The reader can satisfy himself of the correctness of this statement by selecting some print of his own that contains such an effect and covering up the offending part with the end of his fingers or even a corner of another mount. He will at once realize the gain in concentration which the real subject matter of the picture takes on.

Some Under-Exposed Films

An Iowa correspondent has returned from a trip to find that, owing to a faulty shutter, all of his plates have been given about half the intended exposure and are consequently under-exposed. He wishes advice as to the best method of developing them. Our advice is to use a soft-working yet quick-acting developer. One ounce of sodium carbonate, one ounce of sodium sulphite crystals, and thirty grains of metol, in twenty ounces of water, will make such a developer. Metol developer, diluted, and used in a tank, will give good results, but we would prefer the quick action of the undiluted developer given above. The light action on a plate or film, as it is exposed on a subject, must start at the surface of the emulsion. In the ordinary

view, even when under-exposed for the whole, some part is quite likely to have full exposure, or sufficient light action for that particular part to continue from the surface on through the thickness of the film. A slow-acting or hard-working developer merely digs down and develops these fully exposed parts quite strongly without in any way adding to the detail only in the surface of the under-exposed portions of the film. This results in a contrasty negative which simply emphasizes the results of the under-exposure.

Time In Tank Developing

A New York reader likes to try new developers in his tank from time to time, but finds it troublesome and trying to determine the proper time to allow the developer to act. We would suggest that he go about the matter in this manner: Load three holders with plates of the same emulsion and then go out and expose them all on some ordinary subject for which the correct exposure is known, taking care that all six plates are given exactly the same exposure and with the same stop in the lens. Take these plates, place them in the tank, and pour on the dilute developer, noting the exact temperature. At the expiration of ten minutes, remove one plate and place it in the first groove in the fixing tank, at the expiration of another ten minutes remove another and place it in the second groove, and so on until the last plate is removed at the expiration of seventy minutes from the time the developer was poured on. Being careful to keep the plates in their proper order during fixing and washing, one will find that they range in order from too thin to too dense, with the negative having the desired degree of intensity somewhere between the two extremes. This satisfactory negative will give the key to the situation because the time it remained in the developer will be indicated by its position in the series. To secure the desired quality in future negatives it will be only necessary to obtain the same temperature and allow the plates to remain in the developer for the determined period of time. One may think this takes time and involves expense, but the time is well spent and the expense, with small plates, trifling. It is much more satisfactory than risking regular exposures by trying to guess at the time.

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The New York Albums

The January-February album completed its rounds, and was sent to Chief Album Director Winchell. The March-April album, accompanied by one of my private foreign print albums, has nearly completed its rounds; the May-June one is well on its way, and the July-August one was started September third, with another of my own foreign print albums. There are several interesting features in store for the New York State members. One is a "Members' Portrait Album," and another is an album of colored prints. Both are in response to suggestions from regular contributors, the last from one who has kindly volunteered to get up the album. It will be a fine one, and New York members should avail themselves of the circulating album feature by letting me hear from them with some of their best prints to be used therein.

Yours sincerely,

LOUIS R. MURRAY, State Album Director.

Alameda County, Cal. Members

Members residing in Alameda County are advised to notice the announcement in the advertising section of the formation of a Camera Club in their district. Several members of the I. P. A. well known to the members are active in the movement, which should succeed.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-15 Call Building, San Francisco, Cal.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director

for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President—Jose Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

FOREIGN SECRETARIES.

French—Charles A. Wargny, 247 Torrence St., Punxsutawney, Pa., U. S. A.

German—George N. Baumiller, Nutwood, Ohio.

ALBUM DIRECTORS.

Alabama—Richard Hines, Jr., 155 State St., Mobile.

Alaska—P. S. Hunt, Valdez.

California—Sigismund Blumann, 3159 Davis St., Fruitvale, Cal.

Colorado—O. E. Aultman, 106 E. Main St., Trinidad.

Connecticut—George E. Moulthrop, Bristol, Florida—Capt. E. S. Contant, Lock Box 73, Stuart.

Georgia—L. O. Surles, 231 E. Pine St., Atlanta.

Idaho—Eugene Clifford, Welppe.

Illinois—George A. Price, 1102½ West Main St., Urbana.

Indiana—H. E. Bishop, 1706 College Ave., Indianapolis.

Iowa—C. E. Moore, Eddyville.

Kansas—H. E. High, Box 72, Ellsworth.

Maryland—E. G. Hooper, 218 East 20th St., Baltimore.

Massachusetts—John Mardon, 161 Summer St., Boston.

Michigan—W. E. Ziegenfuss, M. D., 327 West Hancock Ave., Detroit.

Minnesota—Leonard A. Williams, St. Cloud.

Mississippi—Emory W. Ross, Institute Rural Station, Edwards.

Missouri—Wharton Schooler, R. F. D. No. 2, Eolia.

Nebraska—Miss Lou P. Tibbottson, 1305 South 32d St., Omaha.

New Hampshire—Mrs. A. Leonora Kellogg, 338 McGregor St., Manchester.

New York—Louis R. Murray, 17 Hasbrouck St., Ogdensburg.

New Jersey—Burton H. Allbee, 103 Union St., Hackensack.

North Dakota—Jas. A. Van Kleeck, 612 Second Ave., North, Fargo.

Ohio—J. H. Winchell, R. F. D. No. 2, Painesville.

CAMERA CRAFT

Pennsylvania—L. A. Sneary, 2822 Espy Ave.,
Pittsburg, Pa.
South Dakota—C. B. Bolles, L. B. 351,
Aberdeen.
Texas—Emmett L. Lovett, Roby.
Utah—John C. Swenson, A. B., Provo.
West Virginia—William E. Monroe, Box
298, Point Pleasant.

STATE SECRETARIES.

Answers to inquiries concerning membership
and membership blanks will be supplied by
the State secretaries. Album directors are at
present acting as State secretaries in such of
their respective States as have as yet no secre-
taries.

California—W. E. Thomson, 3540 School St.,
Fruitvale, Oakland.
Idaho—Eugene Clifford, Weippe.
Indiana—R. A. Underwood, 912 E. 15th St., Indianap-
olis.
Kansas—H. H. Gill, Hays City.
Mississippi—Joe C. Montgomery, R. F. D. No.
1, Box 36, Edwards.
Missouri—J. F. Peters, 6220 Berthold Ave.,
St. Louis.
New York—Louis R. Murray, Ogdensburg.
Oregon—F. L. Derby, La Fayette.
Wisconsin—F. W. Freitag, 500 Monument
Square, Racine.

NEW MEMBERS

3443—L. Dean Peterson, 514 Washington St.,
Eugene, Ore.
3/4x4 1/4 and 3/4x5 1/2, developing papers, of
views of University of Oregon, also scenery;
prefer post cards. Class 1.
3444—Miss Esther Graham, St. John, Wash.
Class 3.
3445—N. S. Fry, care Jas. Marshall & Co.,
Rundle Street, Adelaide, South Australia.
4 1/4x3 1/4, 5 1/2x3 1/4, and 6 1/2x4 1/4, self-toning
papers, of land and seascapes; for views
of general interest. Class 1.
3446—L. D. Jenkins, Bagley, Wis.
6 1/2x8 1/2 and smaller, developing paper, of
scenic views; for the same. Class 1.
3447—J. P. Edwards, 905 H St., Sacramento,
Cal.
Class 2.
3448—Frank Bauman, Box 97, Neligh, Neb.
Class 2.
3449—Gordon G. Macdonald, Kyle, Sask., Can-
ada.
3/4x5 1/2, developing papers, of portraits, owls,
general views, Indians, and farm scenes;
for portraits, marine and general views, or
anything interesting. Post cards and prints.
Class 1.
3450—V. G. Bidenharn, care Gran Quivira,
Clovis, N. M.
3/4x5 1/2, of mostly scenery all over Europe
and America; for views of Holland and Ger-
many. Views only. Class 1.
3451—R. R. Baldrey, care Union Bank of Aus-
tralia, Ltd., Gisborne, New Zealand.
5 1/2x3 1/2 or less, self-toning and developing
papers, of pictorial landscape, child studies,
and local views; for general pictorial work.
Class 1.
3452—Ed A. Shepard, Oakland, Iowa.
3/4x5 1/2 and smaller, developing papers, of
landscapes and street views; for landscapes,
street views, and buildings, etc. Class 1.
3453—Herbert Knauf, R. F. D. No. 1, Box 96,
Canfield, Ohio.
4x5 and 5x7, developing paper, of scenery;
for the same. Class 1.
3454—J. H. Okubo, Box 95, Prescott, Ariz.
Class 3.
3455—Clyde Wilcoxon, Box 153, Lakeville, Ind.
Class 2.
3456—J. P. Graham, 823 Nob Hill Ave., Seattle,
Wash.
From 3/4x4 1/4 to 4 1/4x6 1/2, developing paper,
of all kinds of views, but especially marine;
for any good work, prints or post cards.
Class 1.

3457—G. L. FitzWilliam, Box 508, Ely, Minn.
4x5, 5x7, and 3 1/4x5 1/2, various papers, of
iron mining, lake and hunting scenes; for
marines, nudes, and portraits. Class 1.
3458—C. L. McDonald, 444 Woodward Ave.,
Atlanta, Ga.
3 1/4x5 1/2, developing papers, of general land-
scapes; for the same and unusual subjects.
Post cards and prints near above size.
Class 1.
3459—W. P. Upchurch, 67 Garden St., Atlanta,
Ga.
Class 2.
3460—Matthew J. Culley, Wagon Mound, N. M.
Class 2.
3461—G. F. Bouquet, 43 Noe St., San Fran-
cisco, Cal.
Class 3.
3462—Ed. Olson, Box 316, Laurel, Mont.
Class 2.
3463—Benjamin Selig, Needville, Texas.
Class 2.
3464X—Miss Josephine Fletcher, 1246 La Salle
Ave., Chicago, Ill.
Class 2.
3465—D. L. Billings, Box 341, Louisville, Ky.
Class 2.
3466—Wm. J. Runyan, Lock Box 261, Coopers-
ville, Mich.
3 1/4x4 1/4, 3 1/4x5 1/2, and 4x5, developing papers,
of some historical, lake, river, and country
scenes; for historical buildings and fort-
resses, battleship views, and lake scenes.
Class 1.
3467—Rev. Paulus W. Weber, Box 87, Crivitz,
Wis.
5x7 and 3 1/4x5 1/2, developing papers, of land-
scapes, water scenes, and stock pictures; for
landscapes, marines, and mountain scenery.
Class 1.
3468—C. L. Myers, Box 297, Smith Center Kan.
Class 2.
3469—Stanley J. Young, Box 432, East Lan-
sing, Mich.
4x5 and smaller, developing papers, of col-
lege life and scenes; for anything of inter-
est. German exchanges invited. Class 1.

RENEWALS

1039X—Harrie A. Holmes, Greenland, N. H.
Post cards, 4x5, and enlargements, develop-
ing papers, of home portraits and general
scenery; for portraits only, nothing else ac-
cepted. Class 1.
1864—A. G. Lindgren, Echo, Minn.
3/4x5 1/2 and 3 1/2x12, developing papers, of
general views from Colorado, Utah, Califor-
nia, Oregon, Washington, Minnesota, and
Canada; for views of general interest from
any part of the world. Class 1.
2076—H. J. Becker, Cascade, Iowa.
Class 2.
2607—John B. Gurley, Box 44, Maltby, Mich.
Post cards, printing-out and developing pa-
pers, of fishing, hunting, logging, and lum-
bering scenes, also landscapes. Post cards
only exchanged. Class 1.
2618X—Geo. H. Webb, Columbiana, Ohio.
Post cards, of genre, landscapes, birds' nests,
and child studies; for nothing but first-class
work and expect to send out same. Post
cards only. Class 1.
3043—H. G. Heinssohn, R. F. D. No. 1, New
Ulm, Texas.
Cabinets to 8x10, printing-out and develop-
ing papers, of almost all portraits; for por-
traits and views. Class 1.
3047—William A. Lenz, Box 610, Lebanon, Mo.
All sizes up to 8x10, various papers, of
street scenes, landscapes, and woodland
scenery; for anything of interest in post
cards only. Post cards only. Class 1.

CHANGES OF ADDRESS

693X—Capt. E. S. Coutant, Lock Box 73,
Stuart, Fla.
(Was Oak Hill, Fla.)
1409—Wm. C. Marley, 5 Treacy Ave., Newark,
N. J.
(Was 49 Milford Ave.)

OUR BOOK SHELVES

- 2120—Arthur E. St. Clair, Claremont, Cal.
(Was Lordsburg, Cal.)
2102—F. Belmont Odell, 1129 Boyd St., Water-
town, N. Y.
(Was 250 Franklin St.)
2176X—Phil A. Friedell, New York Mills, Minn.
(Was Victor, Mont.)
2596—Maurice Windus, 1101 22d Ave., Spokane,
Wash.
(Was 621 S. Adams St.)
2653—Jos. C. Finagin, Box 76, Rolla, Mo.
(Was Campbell Hill, Ill.)
3109—Richard L. Berger, 2 Rear 26 N. New
Jersey Ave., Atlantic City, N. J.
(Was 318 N. New Jersey Ave.)
3131—Milford Baker, 1612 Mulvane St., Topeka,
Kan.
(Was Topeka, Kan.)
3278—George C. Shepperd, 272 Dearborn Ave.,
Detroit, Mich.
(Was West Pittsburgh, Pa.)
3282—William L. Allen, 1330 West 4th St.,
Wilmington, Del.
(Was Winthrop, Ind.)
3327—John A. Maul, Dover, Pa.
(Was Plevna, Kan.)
3413—F. D. Campbell, M. D., High St., Coal
Grove, Ohio.
(Was Rock Camp, Ohio.)

OUR BOOK SHELVES

"SELF-HELP IN PHOTOGRAPHY"

The above is the title of an instructive and helpful booklet that has just reached our desk from Burroughs, Wellcome & Co. It contains chapters on the selection of subjects, the problems of exposure, intensification and reduction, tray and tank developments, and other most interesting subjects for the photographer. The publishers write that they will be pleased to supply copies to any of our readers gratis upon request. Write Burroughs, Wellcome & Co., 35-39 West Thirty-third Street, New York, mentioning this magazine, and a copy will be sent you free.

"Photography of To-day"

This is the title of a handsomely printed and attractively bound volume just issued from the press of J. B. Lippincott Company, Philadelphia. Its author, H. Chapman Jones, is one of the best known authorities in England, being president of the Royal Photographic Society, lecturer on Photography at the Imperial College of Science and Technology. The book contains almost three hundred and fifty pages and over fifty illustrations. The frontispiece is a reproduction in colors of the beautiful autochrome of a rainbow by John H. Gear. The table of contents includes such titles as: Light, Its Nature and Effect; The Control of Light; Lenses, Old and New; The Exposure; The Development of the Plate; The Effects of Color and Its Control; The Photography of Color; Truth and Error in Photography; Instantaneous Photography and the Photography of Motion; Size and Scale, and the like, the table of contents, however, giving no idea of the care with

which the text matter has been brought right up to the present day. All in all, the book is one that we can confidentially recommend to our readers as most instructive and informative. It is a popular work that should be of great interest to any photographer, either amateur or professional. The price is one dollar and fifty cents, postage twelve cents. It can be ordered direct from the publishers, whose name and address appear above, or through any book store in the country.

The British Journal Photo Almanac, 1913

This world's photographic almanac is in its fifty-second year. It is the standard photographic work known throughout the English-speaking trade, and has a very large circulation in the United States and Canada. It will contain many new and valuable features, and will be ready for delivery about December tenth, 1912. New features of the 1913 "British Journal Almanac" will be: "Fitting Up the Dark Room," a practical article on this department; "How to Do It," a series of over one hundred hints on all branches of photography, illustrated with drawings; "Formulæ for Daily Work," a revised series of formulæ, in each case telling how to make up the solution and the best way to use it; and "Tele-Photo Work," explaining practical methods of tele-photography. Give your order for this Almanac to your dealer at once. Do not wait. The edition is always sold out. Prices: Paper cover, fifty cents, postage twenty-seven cents; cloth binding, one dollar, postage thirty-seven cents. George Murphy, Incorporated, 57 East Ninth Street, New York, are general trade agents for this country.

NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

Powell & Brown, of Fresno, have dissolved partnership. Mr. Brown will keep the Fresno place, Mr. Powell going back to Hanford.

N. G. Siller, of Stockton, is now in the married class. He has received a letter of condolence bearing the signatures of ninety-two of his friends. The honeymoon was spent on the shores of Blue Lake.

Would Teddy Mueller, of the Defender Company's San Francisco branch, write the editor about the big smoke he had? His version would be interesting reading.

Mr. Powell, of Hanford, has added a Seavey window and several new chairs to his stock of accessories.

George E. Worthington has opened an amateur finishing department in connection with his studio in Hanford.

Mr. Drath, of Reedley, attended the Fresno County fair the first week in October.

H. C. Jensen succeeds J. C. Stanley at Selma.

The Model B Balopticon

We would call the attention of our readers to the new Model B Balopticon being placed on the market by the Bausch & Lomb Optical Company, of Rochester, New York. This instrument is an innovation in this, that it affords a really high-grade projecting apparatus that is sold at a moderate price despite the fact that it is thoroughly scientific in its principles and construction. It can be used in small class rooms and the like that are only wired for ordinary current of five amperes or less, and is therefore specially adapted to home use. For this reason they should make a strong appeal to the amateur photographers who have heretofore felt their efforts to entertain their friends with the productions of their cameras were hampered by lack of necessary current or satisfactory apparatus to employ that available. Small cameras are distinctly

more popular than was the case a few years ago, and for that reason the production of lantern slides is made correspondingly more simple, as slides by contact are relatively more simple and inexpensive than by any process of reduction. Our readers to send for particulars covering this new Model B, addressing Bausch & Lomb Optical Company, Rochester, New York.

The American Annual of Photography, 1913

The twenty-seventh edition of this great American Annual will be ready for distribution about November twenty-fifth, 1912. It will contain practical hints on every-day photography, and matter full of helpful hints and suggestions. More than one hundred illustrations from the best European and American photographers will appear, including thirty-two colored photographs and a beautiful frontispiece. In addition, it will contain advertisements from the leading manufacturers and agents of photographic materials in this country. This celebrated annual is always in such great demand that the edition is sold out early in the year. Therefore, it would be well if you would place your order with your dealer now. George Murphy, Incorporated, 57 East Ninth Street, New York, are general trade agents.

New Multi-Speed Catalogue

We have just received a copy of the interesting new catalogue and descriptive booklet of the Multi-Speed Shutters. It is really a very fine piece of printing, contains a wealth of fine illustrations, and best of all, goes into a full and clear explanation of the movements and simple mechanism on which is based the efficiency for which this shutter is famed. Our readers will do well to send for a copy at once, addressing, Multi-Speed Shutter Company, 317-323 East Thirty-fourth Street, New York. They advise that they will be glad to mail copies free to all our readers who will make request.

A Corrected Bargain List

W. F. Lynch, of the Camera Exchange, 109 Montgomery Street, this city, has been getting out a list of second-hand photographic goods during the past few months, and we believe his plan is an excellent one for all concerned. Instead of having the lists printed, they are mimeographed at frequent intervals so that all sold goods are left out and all new bargains included. In addition, each list, as sent out, is corrected right up to the hour of being mailed. This minimizes the too common inconvenience of a customer sending for some particular article only to find that it is sold, an inconvenience that is quite common with printed lists gotten out at long intervals. Our readers who have an appreciation of bargains should send for one of these lists from time to time, addressing as above.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: None.

The Flashlight Season

By the time this reaches our readers, the flashlight season will be well upon us, and we would advise that the claims of the makers of flash powder and accessories be given every attention. The advertisements of the James H. Smith & Sons Company, several of them, appear in our advertising pages, and the goods of this old yet progressive firm should have consideration. The well-known Victor powder has recently been greatly improved and from reports which we have received it is greatly pleasing the flashlight workers who have given it a trial. It makes much less smoke than did the Victor powder put out previous to August first, and that was very little. It, the new powder, is almost noiseless, and has about double the illuminating power, the manufacturers claim. This is a broad claim in view of the good quality of the older product, but a trial is easily made and the user can satisfy himself. As a flash-powder market depends upon repeat orders, the manufacturer would hardly care to make claims that were not upheld by actual trial. The Victor powder is for sale by all dealers or can be ordered direct from the manufacturers, James H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago, Illinois, in case one is at a distance from a dealer carrying it.

"The Cirkut Method"

This is the title of a handsome booklet pointing out in definite terms the money-making possibilities of the Cirkut Camera, showing reproductions of the several different sized images that can be made with one camera by using the convertible qualities of the lens, and showing illustrations, descriptions and prices of the several models and accessories. It is one of the finest pieces of printed matter ever gotten out covering photographic apparatus, and our readers will be well repaid for the trouble of sending for a free copy. The interest in the Cirkut camera has been such that the makers have been unable to keep up with the orders during the past few months, but this difficulty has been overcome to the extent that new orders will receive comparatively prompt shipment. Readers desirous of availing themselves of a fast widening field of profitable work should get this booklet and investigate the possibilities at once. Address, Century Camera Division, Eastman Kodak Company, Rochester, New York.

Increased Interest in Flashlight

The most pronounced tendencies observable in present-day photographic practice seems to be toward the increased employment of the flashlight, and the frequent articles on the subject appearing in our pages have echoed this activity. The article in this issue, the one by Prof. Cook, taken in connection with the examples shown, should do much to interest those who have not awakened to the value of flashlight as a business and profit-maker. And our advertising pages also reflect the same increased interest with its numerous announcements of flashlight powders and lamps. Still another assurance is the report just received from the Charles H. Nichols Company, that the present season has been exceptionally good, so much so in fact that they have neglected to advertise as usual. This, they admit, is a mistake that will be remedied in an early issue if not in this. The flash lamps and powders, the product of this firm, have enjoyed a great popularity for a number of years, an ever-increasing popularity, we should have said. Simply address, The Charles H. Nichols Company, St. Louis, Missouri, and ask for descriptive circulars. They are sent free upon request.

CAMERA CRAFT

Notes From the Illinois College

Fifty-one students have enrolled for the September class, nine of them being ladies. September is usually a little the best month of the year for enrollments at the college.

We are in receipt of a nice letter from Mr. and Mrs. Fleming Long, of Monmouth, Illinois, both of whom were students at the college about eleven years ago. They have made a fine success of photography and sent us two young lady students for the September class.

George Frederiksen, of 1908, who has been visiting the college and friends in this city the past month, has taken a position with the Boyle Studio of Mobile, Alabama. Mr. Dishinger, of 1910, is the manager.

Robin Campbell, of 1909, writes us from Blatchley, Australia, that he is having excellent success at photography in that far country. He says Australia is practically a new field for the business.

We received pleasant visits last month from Lewis Barrack, of 1910; Gordon Gray, of 1906, and Miss Isabel Evans, of 1907.

The Wonderful New Parallax Lamp

Under the above heading we gave a few particulars concerning the working of this excellent utility, but, through an oversight, the cut mentioned was omitted, rendering a portion of the description somewhat vague. We can hardly do less than repeat the article, and at the same time correct an error as to the increased power of the light, which was said to be increased forty per cent. This should have read as corrected below, the volume being increased about forty times:

This is a new lamp recently placed on the market by the well-known optician, Robert D. Gray, of Ridgewood, New Jersey. An advertisement appears on another page, and we would advise all our readers to investigate the surprising efficiency of this new lamp. With it one can make home portraits and groups, artistic effects are easily secured, and for commercial work the lamp is indispensable. The picture reproduced herewith is only a fair sample of the work possible. It was made with the lamp about ten feet from the subject, an exposure of one second being given on a fast plate, using stop f-5. Had a four or five hundred watt bulb been used, the exposure would have been much less, but the maker recommends using two bulbs of two hundred and fifty

watts when more light is wanted for portrait work. The picture above was made with one two hundred and fifty watt bulb. There is a smaller size made for direct enlargements and for contact printing, which can also be used for portrait work, and particularly so in connection with the still smaller lamp made for enlarging. This latter lamp is guaranteed to enlarge from any negative not larger than 8x10, in one-thirtieth the exposure required by the bulb alone. The Mazda tungsten lamps are used, the remarkable power of the Parallax lamp being due to the construction of the reflector, increasing the volume of the light from the bulb about forty per cent by utilizing the two hundred and seventy degrees of light that are usually lost against the ceiling or walls, or dissipated inside faulty designed reflectors. The actual photographic value of the light is thirty times, by contact printing tests in the focus of a 13A lamp. This applies only where the mirrors all act on one place, and not at the face of the lamp. Write the manufacturer for circulars describing the several lamps.

An "Agfa" Notice

The "Agfa" folks wish us to inform our readers that they have a good many requests for the Agfa Formulæ Book and the Agfa Flashlight Book which they are unable to fill, inasmuch as some of the requests are without name and others are without address. If you feel that you are not receiving these books promptly enough, it may be that your request is among this lot.

The Berlin Aniline Works, 213 Water Street, New York, are desirous of giving, like their products bearing the "Agfa" brand, the best service possible.

The Mirograph Camera

We have recently had the pleasure of seeing some excellent prints from negatives made with the Mirograph camera, and we were pleasantly surprised at the quality of the work. We really had no foundation for a doubt as to the capability of these fine little cameras, but the poor reproductions in the first catalogue gotten out by the makers had given a sort of subconscious impression that made the seeing of some fine speed pictures come as a surprise. The makers advise that their advertisement in our pages has almost ex-

hausted this first supply of catalogues, and an effort will be made to secure better cuts and printing in the next to the end that the excellence of the camera is more nearly indicated. This should explain to recipients of their catalogue the reason why the catalogue is not better. It was gotten out without proper time and attention, and, to some extent, without the experience necessary to determine the quality of cuts, paper and printing necessary. Those of our readers who write now for a catalogue will receive one of the old ones while they last, and will be assured of a copy of the new one as soon as published. Write for one today, addressing the Mirograph Camera Company, Indianapolis, Indiana.

New Defender Packages

Several important changes have recently been made in the line of papers of the Defender Photo Supply Company. From now on, the packages of Argo developing paper will bear an end seal which will denote the degree of contrast by color and name, and the nature of the surface by name. The three degrees of contrast and the color scheme are now as follows: Hard, blue end seal; Normal, red end seal, and Soft, green end seal.

The half-gross, gross and five hundred-sheet packages are usually attractive and legible, bearing a label lithographed in brown, with the number of sheets and the size in black on a white background, making them easy to read at a glance. Dealers will appreciate the convenience of this method of labeling, and it will be found an improvement over former styles by all users. As heretofore, all surfaces except buff will be supplied in all three degrees of contrast, making it easy for the user to select just the right grade for any negative, no matter how poor its printing quality may be on some other sort of paper. A change of nomenclature is also to be noted; the thick papers are now called double weight instead of cardboard. The printing speed of the normal paper has been increased so that all three grades are now of approximately the same rapidity. This should be a great convenience in actual work, since it is not necessary to vary the exposure if a harder or a softer print is desired from a given negative. Normal Argo will be found a little more contrasty than Portrait Argo has

been. A consumer who finds Normal too contrasty should be satisfied with Soft. The Normal is halfway between the others in contrast.

The new chemical packages now show in red and black the Defender Diamond, which is familiar to our readers from recent advertisements. The cartons are made of heavy pasteboard, printed all over with the Defender emblem of an armed foot soldier carrying a round shield inscribed with the word Defender. This gives them a distinctive appearance. We note, also, a new trade name—De-Fen-Co—abbreviated from the full title of the company. The Acid Fixing powder is put up in heavily waxed cartons. De-Fen-Co Hardening Solution is supplied in a bottle graduated into ounces and very neatly packed with thick embossed paper. The Metol-Hydro developer of the same brand name is intended for all papers, films and plates and a four-ounce bottle makes twenty-four ounces for Argo, twelve for Regular Velox, twenty for all other gaslight papers, and forty-four ounces for Monox Bromide preparation. The cork is sealed with wax and the corkscrew is packed inside the carton. These changes and improvements should extend the already great popularity of the Defender line.

The Bissell College of Photo-Engraving

Rev. Frank Ferris, one of the students at Engraving Hall, assisted by Lionel Merrill, tenor, and Miss Blanche Skinner, soprano, gave a splendid lecture, illustrated with sixty stereopticon slides, on the face of Jesus, at the Assembly Hall last month. The music was as good as the lecture and the entertainment drew a packed house. The college is justly proud of its local talent.

Thomas McGuigan and Joseph Neumeister have returned to finish their course in engraving, after being absent the past summer.

The students voted a half holiday on the fifth of last month to attend a matinee by Sousa's band at the local opera house. They attended en masse.

"Home Entertainments"

This is a handsome booklet of about forty pages that not only gives the reader all detail and description of the different equipments and accessories, but contains many excerpts from the book, "Hints for Home Entertainments," that is packed with such

CAMERA CRAFT

radioptican sent one. Judging from these excerpts, the book must contain sufficient suggestions to provide one with an endless variety of entertaining features for home enjoyment during the long winter evenings. Everyone should send for a copy of this booklet, and should give particular attention to the mechanical excellence and moderate price of the radioptican line. It can be obtained free upon request to the H. C. White Company, 502 River Street, North Bennington, Vermont.

Flashlight Cartridges

The past season shows a greatly increased demand for the Actino Flash Cartridges, the sale having doubled during the past year. They are packed in boxes of six each, the smaller size being suitable for illuminating a twelve-foot room and the largest of the three sizes a thirty-foot one. They are very convenient and the certainty of ignition which characterizes them, together with their strong illuminating power, makes them most desirable for flashlight work. They do away with the trouble and uncertainty of measuring out some given quantity and using a lamp. One simply uses a cartridge of the desired size, placing it where desired, removes the cover, and ignites the safety fuse. One or two exposures made with their assistance will assure a continued use. They can be obtained of most dealers or direct from the manufacturers, James H. Smith & Sons, 3541 Cottage Grove Avenue, Chicago, Illinois.

Agfa Kapselblitz

Under the above name an extremely convenient and portable form of flashlight is being marketed by the Agfa Company. The flash powder is contained in a triple tin case about the size of an ordinary walnut. It is sealed with a strip of adhesive plaster, which keeps the contents perfectly dry. On removing the plaster the two constituents of the flash powder, the magnesium powder and the oxidizing chemical, are found separate in the case, the chemical combustant being contained in an inner capsule which forms an additional preventive of the access of damp. The two are simply mixed together by shaking in the outer capsule, when the operator obtains the flash powder ready for use in a perfectly fresh condition. The mixture is ignited by means of a strip of touch paper, a supply of which is contained in each pack-

age, and the result is an actinic flash which is highly efficient for flashlight portraiture. We should add that attached to each capsule is a thin strip of soft metal by which the capsule can be attached to any convenient support, and thus readily placed at a height necessary for the exposure. The "Kapsels" are supplied at ten cents each, one dollar per box of ten. They are a most practical addition to the many reliable requisites for flashlight photography which the Agfa Company have prepared and marketed within the last year or two.

Victor Spred-Lite Flash Lamps

This most popular and reliable hand flash lamp consists of a strong sheet steel trough with a detachable handle of sufficient length to insure safety to the operator. It enables him to hold the powder in the position which will give the best effect, and to produce the flash instantly when desired, without giving the subjects the slightest preliminary indication of when the flash is to occur. It has all the good qualities of strength, reliability, safety, capacity, and general adaptability. The powder is ignited by pulling down on the ring, thus causing the spring hammer to strike a paper cap in the bottom of the trough. They sell for from sixty cents to two dollars according to size.

They are carried by all dealers or can be ordered direct from the manufacturers, Jas. H. Smith & Sons Company, 3541 Cottage Grove Avenue, Chicago.

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Editor, Fayette J. Clute, San Francisco, California; Managing Editor, Fayette J. Clute, San Francisco, California; Business Manager, Fayette J. Clute, San Francisco, California; Publisher, Fayette J. Clute, San Francisco, California; and Owner, Fayette J. Clute, San Francisco, California.

(Signed) FAYETTE J. CLUTE.

Sworn to and subscribed before me this tenth day of October, 1912. Charles Francee, Notary Public, in and for the City and County of San Francisco, State of California.

CAMERA CRAFT



SAN FRANCISCO, CALIFORNIA

Home Portraiture

EVERYBODY is making or trying to make home portraits, because they generally tell a complete story. The difficulty has always been in lighting the subject properly. Home portraits generally show sharp lines and shadows which are not pleasing and destroy likeness.

Mr. E. L. Owens claims the difficulty is solved with

CYKO PAPER

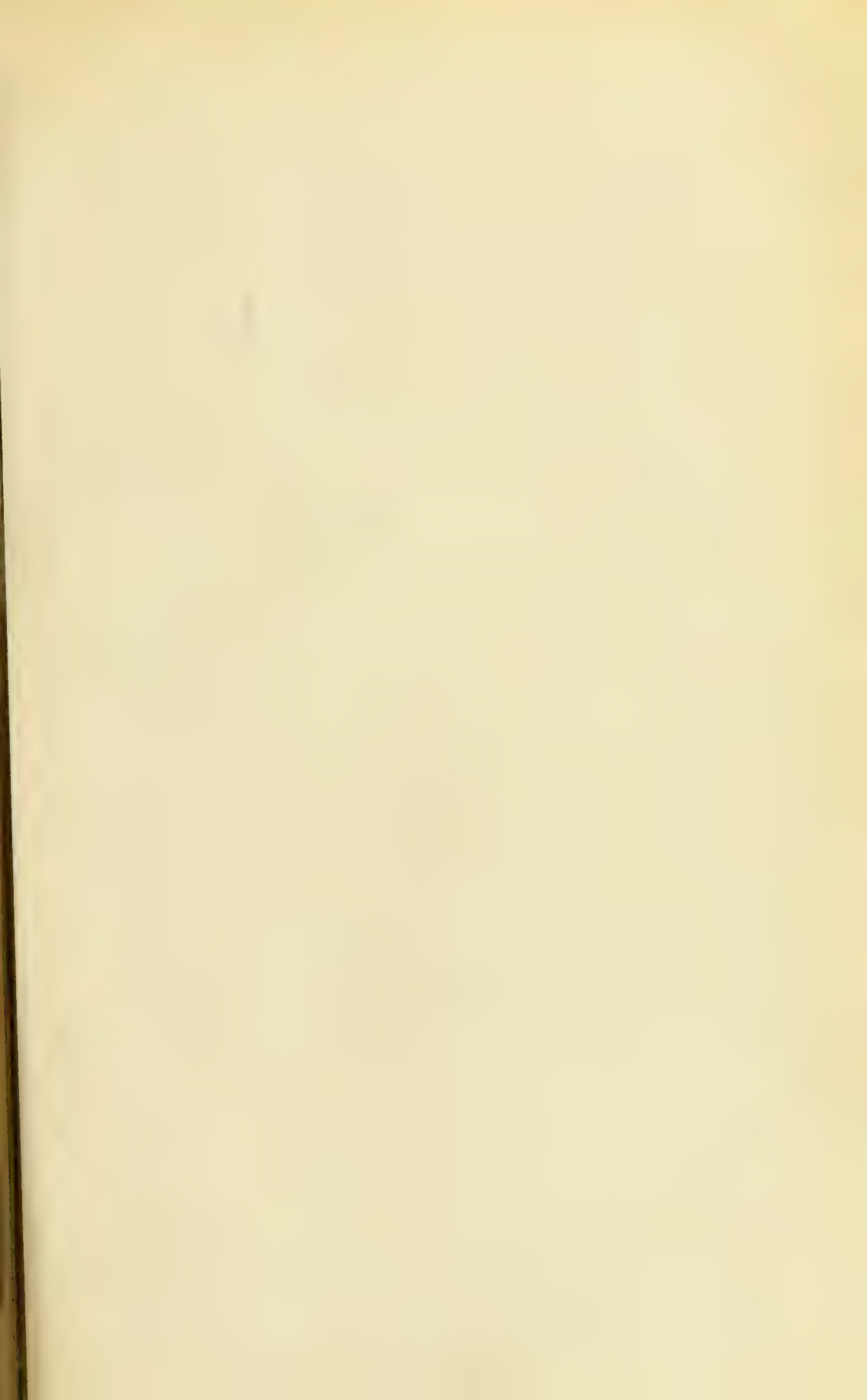
and quotes Sidney Allen, the photographic art critic of the Photographers' Association of America, as having said:

"You do not get sharp lines with CYKO.

"The light and shadows blend so harmoniously through such soft, progressive gradation of tones that there is no strong dividing line," and "shadows never look opaque, but always retain some atmospheric quality."

The photo-twin books, "The Negative and Positive of Photography," are yours for the asking.

ANSCO COMPANY, Binghamton, N. Y.





WAITING FOR OLD SANTA CLAUS
By THERON WENDELL KILMER, M. D.

CAMERA



CRAFT

A PHOTOGRAPHIC MONTHLY

FAYETTE J. CLUTE, Editor and Proprietor

CALL BUILDING

SAN FRANCISCO

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No. 12

Portraiture With Flashlight

By Felix Raymer



With Illustrations by the Author

In taking up the subject of flashlight work, we do not want to be understood as feeling that we are handling something new or something not already understood by many a good operator. Flashlight work is many years old and has been exploited by some of the very best workmen the country has known. But as in everything else, different ideas serve to fit one for better work, even though we may not agree at all times with the writers.

Our experience has been that the simpler we make our work and the simpler we handle the flash lamp, the better the resulting picture will be. Simplicity is the key note to success in all things and flashlight work is no exception to the rule. If we will at all times remember that the flash machine or lamp, whatever it may be, should be used just the same as a skylight or window, we will have no trouble in getting good results. The trouble comes in trying to do something totally different from what we would have done had we been using the skylight. The old rule with which all operators are fully familiar, to have the light fall on the subjects face from an angle of about forty-five degrees, holds good here just as it does with daylight illumination. The lamp must be so placed that the light has this fall, and if such is the case, the effect of the lighting will be exactly the same. There is no difference in the two illuminations, daylight and flashlight, except that the flashlight is much more actinic; and, as a result, will make the record on the plate in much shorter time. As to what can be photographed with flashlight and what cannot, we have never found any subject that could not be photographed by the use of flashlight, while we have found many that had to be



THE NICHOLS LAMP IN ACTION. MADE BY FLASH SHOWN, THE SAME FLASH MAKING PORTRAIT SHOWN ABOVE.

made that way because daylight was not available. Many subjects are so difficult that it would be almost a matter of impossibility to get them to hold a position long enough to give the required time by daylight; whereas, on the other hand, the flash being an estimated exposure of about one-thirtieth of a second, it will be seen that almost any subject, be it ever so difficult, can be made in such a short time.

As to the lamp or machine for this purpose, there are many on the market and all have their claims to superiority, but personally we have liked the Nichols lamp, and for the very reason that most makers claim to be a drawback to its use. It has been our experience that a flash lamp that is open, or in other words, without the usual bag to hold the smoke over it, furnishes a smoother light than those where the light is closed up. All well-posted operators know the advantages for soft work with the skylight open, without heavy shades to close off a part of it. The larger the light, the softer the effect on the subject's face, and this is accounted for by reason of the fact that the light fills the entire room, thus filling the shadows with a soft, silky definition that gives them a delicacy unobtainable in any other way. The same is true of the lamp that allows the light to fill the room; it illuminates the subject from all sides and gives that soft touch to the shadows that the open skylight gives. By this we do not mean to say that we should ignore all rule as to having the light under control, for that could never give harmonious results. But by seeing to it that the lamp occupies a position that will allow the light falling from it to fall on the subject from an angle of about forty-five degrees, we have the light under control and

PORTRAITURE WITH FLASHLIGHT

the result will be whatever we make it by the amount of powder we use. If the light is allowed to fill the room and illuminate the deep shadows, as in the use of the open skylight, the delicacy will be the same. Sometimes we have to use a diffusing screen for the purpose of softening the light, just as we have to use it in daylight work; but this diffusion is altogether different from that secured by closing the light off with opaque curtains that absolutely cut it out; and, in so doing, concentrating the light at one part of the subject and creating a false contrast that destroys the delicacy so often desirable.

But whatever lamp is used, it can be used just the same as any other lamp if the principles are understood. Some lamps are fitted with an electric attachment that gives a light for focusing and for determining when the light will fall right, before making the flash. In such case, of course, it is more or less of an easy matter to get the position of the flash placed right. But if one has a lamp that does not produce a light until the flash is made, he must know what to do and when to do it to get the very best results.



PORTRAIT MADE BY SAME FLASH AS SHOWN IN
AND USED IN MAKING PICTURE BELOW

which we showed several illustrations of different effects. And it will be recalled that we showed the plain or broad effect made up first and from that all others were made without, in most cases, doing much except to move the

Just here we will call attention to the illustration showing the lamp in use. And we want to say that making such a picture as this is not easy, as any operator knows. However, feeling that the reader could catch our ideas better were an illustration given, showing the lamp working, we attempted the making of a portrait and also a wide-angle view of the room at the same time, to show just how the work is done. As the two negatives were made by the same flash, the difficulties of the work may be easily understood. The start of all lighting is what we call "plain or broad effects." When such a lighting is arranged, it is but a step to the securing of any other effect wanted. It will possibly be remembered by a few of my readers that we had an article on lighting in *CAMERA*

CRAFT a few months ago, in

CAMERA CRAFT

camera, to get a different point of view or the moving of the subject's face to one side or the other. The same is true in the use of the flash lamp.

It does not matter where the subject is seated, all that is necessary is for the operator to pick up his lamp; and we will suppose, for convenience sake, that he is using the Nichols, and grasping it by the tripod support, walk about the subject until the point is reached where, when looking past the tripod of the lamp, the operator can just see the open eye on the shadow (or what will be the shadow) side of the face. There the lamp should be stationed. Next the lamp should be raised above the subject's head the same distance that it is from him. Thus, if the lamp is five feet away from the subject, it should be raised five feet above his head. The distance of the lamp from the subject depends upon the nature of the subject. For example, if the subject is a bust portrait the lamp can be placed much nearer than if it is of a group of ten or twenty figures. But by raising the lamp above his or their head the same distance as it is from the subject, the forty-five degree angle of light is always maintained. The reason that the lamp has to be farther from the group is that it must be



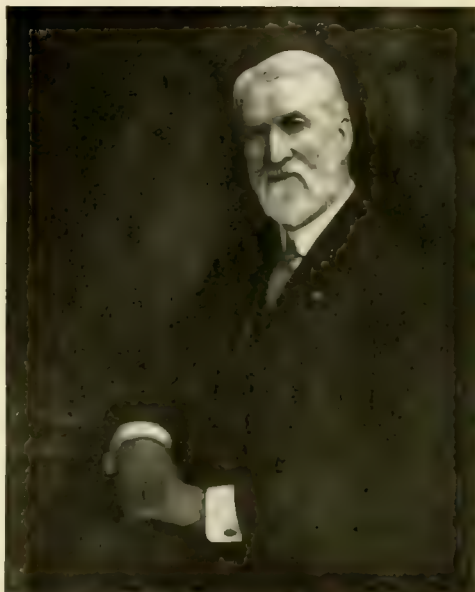
EXAMPLES OF FLASHLIGHT PORTRAITURE MADE AS DESCRIBED

kept out of the angle of the lens. And remember, for it is just here that so many make a mistake, to have the lamp just the height that it is in distance from the subject. And another very important thing to remember is that the farther from the subject the lamp is, the more powder it takes to get a given result. If it were not for this feature of flashlight work, we could simply make sure that the lamp was out of the field of the lens, and make all sitting with it placed at the same distance. But when we consider that if the lamp is five feet from the subject and takes, we will say, one teaspoonful of powder, it will take four times that amount if the lamp be placed ten feet away.

PORTRAITURE WITH FLASHLIGHT

Thus it can be seen that the item of expense can be influenced in the making of lightings by the flash-lamp.

After the lamp has been placed so that the light from it will fall as directed above, it then remains for the operator to decide as to what view of the face he desires. If he wants what is called a three-quarter view, the camera should be moved to the place where he just misses seeing the ear on the shadow side of the face when looking at his subject from the position of the lens. If a



EXAMPLES OF FLASHLIGHT PORTRAITURE MADE AS DESCRIBED

front view is wanted, the camera should be moved so that both ears are seen alike from the lens. If he wants a profile, he will proceed just the same as though he intended making a three-quarter view of the face, and after placing his camera where the ear cannot be seen from the lens, he then turns the subject's head away from the lamp until he misses seeing the eye on the shadow side of the face when looking at the subject from the lens. Of course, the camera is to be run forward or backward according to the size of the head required, and the lighting is the same in every case, whether the sitting is to be bust, three-fourths or half figure. In all positions as described for broad effects, the amount of powder required with the lamp five feet from the subject and five feet above the head, the lens working at f-5, Cramer Banner X plate, is a level teaspoonful of Nichols powder.

REMBRANDT EFFECTS

After the lamp has been correctly placed for the broad effect, if the operator should decide to make one of the so called Rembrandt effects, it can be done as follows: Proceeding as for the broad effect until it comes to selecting the view of the face wanted; then, by moving the camera around, on what is to be the shadow side, until the ear on the light side is missed when looking

CAMERA CRAFT

from the position of the lens. This giving a three-quarter view of the face from the shadow side. Remember, no change is to be made from the broad lighting arrangement except the moving of the camera to the shadow side; and, of course, moving the background to a position behind the subject. This effect of lighting shows the greater portion of the face in shadow, while the broad effect shows the greater portion in light. For this reason the amount of powder must be increased just as any well-informed operator would increase the exposure were he making the sitting by daylight. For this view of the face we use two level teaspoonfuls of Nichols powder, all other conditions being the same as for the broad effects. If a Rembrandt profile is desired, the camera is moved around towards the shadow side of the face until the eye is missed on the light side when viewed from the lens. Leave the lamp the same; leave everything the same except the camera and the background. It will take three level teaspoonfuls of Nichols powder for this lighting, as it gives nearly the entire face in shadow; the only light being on the front of the face. This view of the face from the position of the camera gives a full profile. This lighting, in all positions, can be made in any style work, from bust on through to full figure if desired; bearing in mind that if it is to be a full figure standing that of necessity the lamp has to be raised higher than if the subject were seated. Knowing this, the operator will place the lamp the right distance from his subject so that he can raise it to suit the case.

HALF SHADOW

This effect is made in profile only and it is secured by proceeding just the same as for the broad effect until after the lamp has been placed so that the open eye on the shadow side of the subject's face can be seen when looking past the tripod of the lamp. Then have the subject turn from the lamp until the nose cannot be seen by the operator as he still stands looking past the tripod of the lamp. Next move the camera to the side until the eye on the shadow side of the face cannot be seen from the lens, and a profile will be secured in which the lighting falls across the face from the rear, the highest light being on the back of the head and neck, with the nose in a soft, delicate shadow. For this lighting two level teaspoonfuls of Nichols powder will be required.

WHOLE SHADOW

Proceed the same as for the Half-Shadow lighting, only have the subject turn from the lamp until the operator cannot see the cheek bone when standing looking past the tripod of the lamp. The camera is to be moved the same as for the Half-Shadow lighting, until the eye on the shadow side is missed when looking at the subject from position of the lens. The powder necessary is four level teaspoonfuls.

LINE LIGHTING

This effect is made somewhat differently and will require greater understanding and some practice to get it right. The lamp should be placed directly behind the background, and raised until it allows the light to fall over its top. The subject should be turned so that the head presents a profile, parallel to the

PORTRAITURE WITH FLASHLIGHT

background, and the camera should be placed so that it is facing directly towards the lamp, giving a full profile of the subject's face. It will take seven level teaspoonfuls of powder for this lighting.

Yes, and yes again, I use a reflector. I have never known the time when I did not need a reflector in flashlight work. Others may have done without it, and I have no quarrel with them for so doing if they secured what they wanted in that way. I use the reflector at about the same distance from the subject that I have the lamp stationed. The reader will have to try this out for himself, as conditions vary. After a trial or two he will be able to determine where his reflector should be placed.

One of the great advantages in the use of flashlight is in its uniformity of the exposure. If the conditions are at all times the same the negatives will always have the same exposure. An increased amount of powder does not prolong the exposure, as it all goes at once, be the quantity large or small. If too little powder is used, the effect in the negative is just the same as if too little exposure were given under a skylight. If too much powder is used, it is the same as if too long an exposure had been given. Be careful to screen the lens from the direct rays of the flash, as it will fog the plate just the same as if direct rays from the skylight were allowed to fall on it. If the lamp is not raised high enough above the subject's head, it is the same as if too low a side light were used. If the lamp is too high above the head, it is the same as if too much top light were employed. Use the flash lamp just the same as you would use your skylight; or, if you are using a window for your work, use the lamp the same as you do the window. To those who have never tried the lamp, we suggest that any one of the lightings we have mentioned be made up by the window, and then, placing the lamp directly in the center of the window, make a flash or two until the idea is grasped. If, after a few trials, it is found that the lighting is too harsh, try a screen between the lamp and the subject. The Nichols lamp is fitted with a white umbrella for this purpose and we have found it to be of a superior grade, being just the quality to give the softness so much



EXAMPLE OF PORTRAIT WORK WITH NICHOLS FLASH LAMP USED AS ADVISED IN THIS ARTICLE

desired, producing results without the usual flat, lifeless effects so often seen when using a poor grade of screen. In addition to this feature, the umbrella, being of the purest white goods, requires no more powder than would be used if working without. The reflector and the screen are worked together. The more the face is screened from the light side, the less reflected light is to be used. A little practice will fit one out with knowledge as to just how to balance the two.

Deacon Gray

By Edgell R. Plaisted



With Illustrations by the Author

The Deacon is dumb—which sufficiently accounts for his never having used profanity himself nor provoked it at midnight among his neighbors. Just what it is that prevents him from giving tongue to his desires and dislikes we never found out, but even when accidentally stepped on he emits only a weird and muffled gasp of sound.

It was his dignified demeanor, however, which won him his title, and as proof of its being wisely chosen he has not only shown a most Platonic affection for the canary, but developed a surprisingly deep dislike for secular music.



THE DEACON AND HIS SMALL FRIEND SHARING A SUN BATH

The first picture shows the Deacon and his small friend sharing a sun bath in the south window, and he has been left alone with the little singer too many times to allow any doubt of the disinterested nature of his friendship.

Before he finished sowing his wild oats, the Deacon caught the mother of a family of young bluebirds, which perished of starvation in a bird box not a



HE CAUGHT THE MOTHER OF A FAMILY OF YOUNG BLUEBIRDS

dozen feet from our window, but for several years we have not known him to add game to his daily menu. To those who have bird-catching cats, a suggestion is offered that they hang a small bell on the cat's collar. It may spoil some of pussy's fun, but will not encroach on his or her freedom, and effectually prevents that silent approach which means capture of the prey.

The second portrait shows the pose which Deacon always assumes when he wants to have his "pictur" took." Not for him are any of Miss Muffet's pert airs and graces, and he even declines to pay the slightest attention to his own reflection in the glass, but he takes this pose so frequently and so unchangingly that I can think he has no other purpose in mind.

On one occasion I was so slow that he grew weary and yawned full in the face of the lens, which was also too slow to capture more than a sweeping flash of ivories and curling pink tongue.

But we must not deceive ourselves into believing that long years of domesticity have entirely overcome all inclination on the part of the Deacon's family to revert to primitive habits. On the hillside below the garden is a little wood, thickly tenanted with birds and squirrels, and while there is no evidence that the Deacon molests either the furred or the feathered inhabitants, he seems to enjoy making believe—in this characteristic pose of his untamed ancestors, crouched close on a horizontal branch and waiting for a breakfast to happen along beneath. From the way the squirrels come down and "sass" him, I judge they get as much fun out of this performance as he does.

CAMERA CRAFT



THE POSE THE DEACON ALWAYS ASSUMES TO HAVE HIS "PICTER TOOK"



MAKING BELIEVE—IN THE CHARACTERISTIC POSE OF HIS UNTAMED ANCESTORS

The next picture shows the calm and stately dignity with which he contemplates the town below from his window eighty feet above, and incidentally gives a very fair effect of line lighting. His expression shows him a person of resource, able to rise to the requirements of any occasion with credit, and that he is a diplomat of no mean order will be shown before his story is finished.

At the time he first objected to my piano playing I surmised he was merely asking that the instrument be tuned, as it was then in a condition which might well distress even a cat; but after it had been put in fine order his disapprobation continued. Often he seemed trying his best to say: "Oh, those ungodly opera tunes! Will nothing persuade you of their pestilent iniquity?" And if a voice joined the full



WITH CALM AND STATELY DIGNITY

tones of the strings he would go to the outer door and beg for his release.

But when I am only strumming softly to myself vague remnants of old airs not even a Puritan could object to, the Deacon often creeps in to listen approvingly, and sometimes leaps from the floor to the keyboard of the instrument. Parading up and down, he will hammer out a choral of his own improvising and then stretch himself out at full length on the yielding ivories and smile up at me most contentedly. (If you don't believe he can smile, just take a look at this next "mug" of his, which lacks little of wearing a broad grin.)

In spite of his years and dignity—for he is nearly ten—the Deacon evidently believes in "a little nonsense now and then," and when in such a mood will climb to the ledge above the keys and cuff at the dancing hammers with a nimble paw. I would give a great deal to capture him thus with the camera, but though old he is still too quick for the flashlight.

Everything comes to him who waits, however, and the Deacon finally got even with me for all he had endured at my hands. An elderly neighbor who was suffering from an ulcerated tooth came in one evening, and in an endeavor to distract his mind from his aching jaw, I "rendered a few selections" on the piano. (The reader is invited to consult Webster's Unabridged for the various definitions of the verb "to render" and take his choice.)

Presently the Deacon came in, and recognizing an old friend he quickly jumped to his knee and began practicing five-finger exercises after the well-known manner of his kind. The old gentleman endured it a few moments, for Deacon is a great favorite with him, but he finally gave the cat an unceremonious shove and turned to me with a rather sad looking smile and remarked: "Kitty plays the same kind of pieces you do. Produces about the same effect!"

In the hush which followed, Deacon marched stiffly out, but he gave me a glance over his shoulder, as if he would have said, in telephone parlance, "Did you get them that time?"

Fun and Profit from a Balopticon

By T. E. Westlake



With Illustrations by the Author



THE AUTHOR WITH HIS BALOPTICON

WHEN I was a little boy I had a magic lantern, that was among my most prized possessions, and after I grew up, the pleasure that I had had with this little toy often recurred to me. It wasn't only pleasure, either, for I used to give "shows," charging pins, marbles and sometimes pennies for admission, and all the children in the neighborhood used to attend, so that I was something of a plutocrat, as childhood's current wealth is reckoned.

But if I often thought of that magic lantern, it was without any idea that similar pleasures and profits might come into my maturer years from a similar source. I am fond of attending lantern-slide lectures and have often made slides from my own negatives at the request of friends, but that is as far as it went. If I ever thought of owning a lantern, that thought was discouraged by the high price and unwieldiness of the

average stereopticon. Then, one day, I happened to see a demonstration of the Model B Balopticon.

FUN AND PROFIT WITH A BALOPTICON

If I hadn't gone into the camera store that day to see the lens man about a recalcitrant shutter, I would probably have lived a Balopticonless life to the end of my days—and missed a lot of fun and profit.

As it was, I had to wait until the customer ahead of me was served. After the first few minutes of listening to the talk between him and the salesman, I was more interested than he. Indeed, when he went out with the lantern he had bought, I quite forgot about my shutter and asked the salesman to show me the Balopticon instead.

Before I left there, I became the owner of a fifteen-pound bundle, which cost me less than eighteen dollars and which has been worth several hundred to me since.



ENLARGING WITH THE BALOPTICON

My first experience upon reaching home with my new possession was a bit discouraging. My wife spied the big package and cried out, in alarmed disapproval: "My goodness! You haven't gone and bought another camera!"

"No," I assured her, and with some trepidation, I unwrapped my package. Buying cameras is a pet vice of mine. I do it much as some men drink too much or play the races, so our house is full of them. My wife stood looking on with eager curiosity and the children came in to see what was the latest "fool thing" that papa had bought.

When I had set it proudly on the table, there was a silence of some minutes and then my better half exclaimed: "Well, it's the next thing to a camera, anyhow, but I dare say it'll amuse the children."

Thus my Model B Balopticon was received at home—an unenthusiastic reception, you will say. Well, that was only a few months ago. Now we all swear by it. I'll tell you why.

When we first connected it up and showed one or two slides which I happened to have in the house, we were all so pleased with results that we decided

CAMERA CRAFT

to make many more slides and give a home entertainment. In fact, we didn't wait for that, because I had a lot of quarter plate negatives recently taken abroad, and we ran these through, greatly to our own diversion.

Then my wife said:

"Why not make some enlargements from these ourselves instead of paying a dollar apiece to the photo supply house?"

It seemed a good idea. I bought some big trays and some bromide paper. The next night we used up a dozen 11x14

paper and got ten fine enlargements from my best negatives. My wife had another idea. She said: "These are just as good as lots of the art prints they sell in picture stores. Why couldn't we sell some of them?"

I discouraged the idea at first, but finally consented to a trial of the proposition. My wife took the ten prints around to an art store. As good luck would have it, they had been taken in Greece, Turkey and other Balkan states, where a war is now raging. As this section was in the public eye, the art dealer suggested that my wife put the prints in his show window. My wife consented, and the prints attracted much attention. Not only did they sell readily enough for a dollar and a half each, but the newspapers got wind of them, obtained our address from the art dealer and besought us for the use of the negatives, offering five dollars each for a number of them. I would not consent to part with my negatives, but I compromised by making bromide enlargements on glossy paper on the following evening. Thus, inside of a week, my Balopticon more than paid for itself.

Of course this was a bit of exceptional luck, but the lantern has proved profitable in many other ways. The art prints which we made from other negatives not connected with the Balkan war sold to art dealers and my oldest daughter has earned a good deal of pin money making enlargements for her friends in high school.

As soon as my set of slides was completed, I held a home exhibition and invited, among others, a friend who makes a business of lantern slides for lectures. He suggested that I make up a set of about one hundred and fifty slides from negatives made in the Balkans and let him have them as a lecture set. I did so and he colored them. Then he asked me to furnish material for a lecture on "The Balkan Country." From memory and with the aid of an encyclopedia we wrote out this lecture, and now my friend lets it for lantern tours to his clients, sometimes at so much per night and sometimes on a royalty



THE BALOPTICON AS A LANTERN SLIDE PROJECTOR

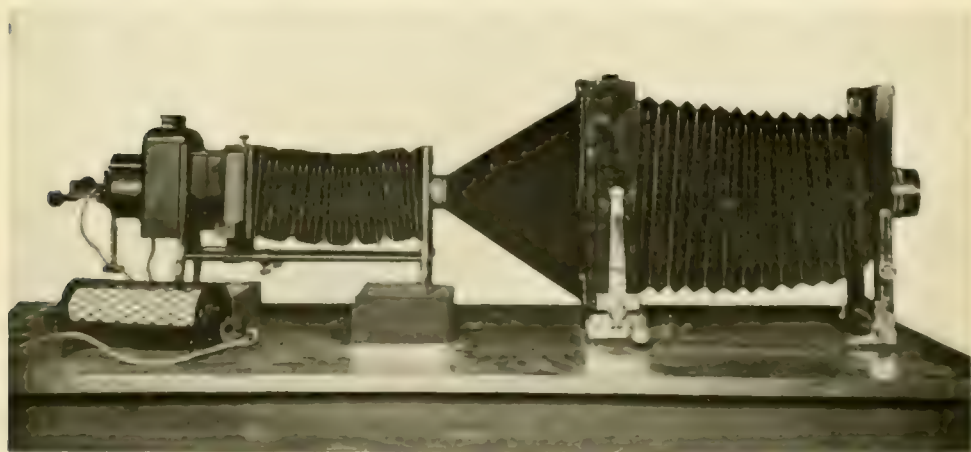
FUN AND PROFIT WITH A BALOPTICON

basis. I have made myself a duplicate set and occasionally exhibit it at clubs, Sunday-school or public school entertainments in the neighborhood, giving the talk that goes with it. The lecture has proved a source of pleasure to many, and my wife often says that if my business should fail, I would have another occupation to fall back upon. She does it to tease me, of course, but it is really true enough.

The Balopticon has proved of great benefit in other ways. If we desire to inform ourselves on any particular subject or locality, we can usually rent a set of slides illustrating that subject more completely than a dozen books could—providing it is illustrable, and a surprising number are.

The young folks, especially, like to do this. They have a better idea of the points of interest in four continents than most people who have not traveled all over the world, because they have seen how they look through the medium of colored lantern slides thrown on a seven-foot screen. These same young folks used to be very fond of theaters, parties and all sorts of entertainments that took them out about five evenings a week. Now they are at home nearly every night. They like to "go traveling," as they call it, and my oldest boy enjoys reading the lectures which go with the slides, rolling out his words in imitation of the lecturers he has heard, greatly to the amusement of us all, including himself.

I have revised all my former notions concerning the modern stereopticon. Instead of mourning for an instrument as simple as my old magic lantern, adapted to the requirements of my maturer years, I have found one which is really simpler. The old magic lantern used to smoke. It had to be filled with oil quite frequently, and it smelled pretty badly even when it worked at its



ENLARGING THROUGH THE CAMERA WITH THE BALOPTICON

best. It was hardly safe unless some adult was within calling distance, and I remember that it was my mother's constant dread that I would set the house afire. Once I nearly did, too.

But the Model B Balopticon, which is nearly as compact as my little toy machine, is perfectly safe in a child's hands. With the special Tungsten lamp

it runs itself perfectly. A turn of the switch controls the current and a ten-year-old child can operate it with success and safety.

I have added the arc light attachment to my outfit, because it gives much better illumination and it is simple enough, too, though I wouldn't advise it for children. I use this when I take the Balopticon out anywhere or if I have a dense negative to enlarge. In an ordinary room the Tungsten lamp seems plenty bright enough.

Lantern-slide coloring is a fascinating occupation. It is easily learned if one has a good eye for color and adds vastly to the appearance of the projected picture. My wife has become quite an adept at it and we have got into the habit of holding little home exhibitions about once a month, exhibiting the best pictures taken by our friends and ourselves.

The only fly in my ointment of complete satisfaction, at first, was the idea that I couldn't enlarge from negatives bigger than $3\frac{1}{4} \times 4\frac{1}{4}$. But I recently hit upon a scheme for projecting the light of the Balopticon through the back of my 8x10 view camera. I made a special kit for the back to hold negatives from 8x10 down and then constructed a wooden frame to back up against the negative kit. The rear of this I covered with a funnel-shaped piece of cloth, the small end of which fitted around the Balopticon lens. Thus I was enabled to make enlargements from negatives of any size not exceeding 8x10.

There must be a lot more people who recall the magic lanterns of their childhood and who don't know that there are lanterns for grown-ups, cheap enough, good enough and small enough for the living room at home. If they did, I think more of them would be following our example instead of rushing out of nights to expensive and often tiresome entertainments, theatrical or social, or dozing over a newspaper at home.

It is too much to suppose that every one who buys a Balopticon will get as much fun and profit out of it as we did—but that will be *his* fault, not the Balopticon's.

Principles of Art

It would be beyond the truth to say that the principles which underlie all old work are the same. Those principles are as diverse as the temperaments and characters of the races among whom they were developed. The Egyptians loved mystery and symbolism; the Greeks carried the refinement of form to perfection; the Romans reveled in richness; the Byzantines indulged in a brilliance of color that is yet always barbaric; the Arabs gave themselves up to the subtle interweaving of intricate detail; the artist of the Gothic period combined religious sentiment with energy of execution; and those of the Renaissance returned to the worship of beauty for its own sake. We should seek in vain elsewhere for the all-pervading symbolism that runs through Egyptian ornament, the purity of line that characterizes Greek detail or the sumptuousness that belongs to Roman scrollery. Inasmuch as all nations and all ages differ, their expression in ornament differs; and inasmuch as all nations and all ages are alike, they express themselves alike in their every-day art.—

LEWIS FOREMAN DAY.

A Time Method of Development

By F. Morris Steadman



With Illustrations by the Author

EDITORIAL NOTE: *In sending us this article as the third of the series, Mr. Steadman advises that a better writer would no doubt have used a much smaller number of words in making a much stronger argument; in fact, his own reason for not using less space and then passing on to the next subject was a fear that the reader might feel less strongly the importance of the subject in hand.*



I DON'T WANT TO PLAY WITH GIRLS

I wish that I might, here at the start, inspire the reader with something more than the usual interest accorded the printed page. I am not, in this series of articles, merely pointing out a few side issues that will improve one's work, but am trying to put forward, with such poor skill as I possess, a fundamentally different method of doing photography. This method, if you are to take it up and be benefited thereby, will require that you discontinue the methods which you may now be using, methods to which you may perhaps be greatly attached. Unfortunately, it is grounded in our natures, this lazy following of precedent, a tendency that can only be overcome by a special effort of the mind. Adhering blindly to old methods seems to be especially tempting to many photographic workers, per-

haps for the reason that some variations have been personally devised; little tricks of manipulation have been incorporated; formulas have been slightly altered; conclusions, perhaps faulty, have been long accepted and influenced the judgment as to what has been the cause of certain negatives resulting better



THE STORY THE BLOSSOMS TELL

than certain others, etc., etc. And, in addition to all this, such a soul-stirring pleasure and such a satisfying devotion are so regularly experienced by the enthusiast that it is not surprising to find him hard to convince that he is working along wrong lines. But in spite of all this feeling that he is right (and it is this feeling that puts the big brake on the wheels of progress), he may be all the time working on lines which are fundamentally wrong and which offer no possible advancement into a higher plane of efficiency. How else can we account for the high percentage of mediocre workmen as compared to the experts in any line of endeavor? It really seems that some little development of whatever ability some men happen to have throws up before them a wall of mixed satisfaction, pride and fancied superiority, beyond which they are unable to progress.

Let one acquire the habit of doing some simple bit of work in a wrong way and the greater the facility developed the more difficult it becomes to correct the habit. And when this habit is one of the mind rather than the hand, it is even more deplorable. In the name of short-lived humanity let the permanent injunction against progress be served by the man with the long scythe and the flowing beard.

Let us see if there is not some simple way of explaining the truths of exposure and development. Let us take a plate or film and expose it so that, during development, some particular area will show a just visible deposit, a barely observable darkening. This spot may be said to have received a "one inertia" exposure, or an exposure only sufficient to just reveal itself in the form of a very faint deposit upon completion of development. Of course, this exact amount of exposure is somewhat elusive and it is not at all necessary to strain after its exactness. It, this "one inertia" exposure, is simply a somewhat hypothetical condition placed before the mind to give a mental picture on which to base our theory of exposure. This in mind, it follows that any more dense

THE IMPORTANCE OF A TIME METHOD

portion of the negative must have received some number of times more light action than the "one inertia" area. To simplify matters in considering this variation in light action, I would recommend the use of geometric scale as most convenient and sufficiently accurate. Then, knowing the exposure given with a certain stop to create the "one inertia" effect, it is known that twice, four, eight, sixteen, thirty-two and sixty-four times that exposure are exposures which overcome the inertia of the emulsion these respective number of times.

The emulsion of the modern fast plate will endure about thirty-two times the one inertia exposure and still render, with sufficient crispness and differentiation, any detail or texture in the area so exposed. In fact, this method of considering exposure also provides a means of stating and comparing the contrast of different emulsions. We may say, for example, that the average soft working emulsion has a latitude of thirty-two, or perhaps sixty-four; while a contrasty one has a latitude of but eight or sixteen. This understood, it is evidently useless and unnecessary to "nurse" or "coax" a plate or film through the developer if the plate or film has been given an exposure which has overcome its inertia a known number of times, that number of times within its scale; or, a normal exposure. Therefore, the "inertia" method accepted, and some simple light-measuring device employed in timing exposures correctly, a simple, normal, mechanical method of development may be used with all confidence that it is absolutely right. This normal development method adopted, all guesswork is done away with and



THE YOUNGER DAUGHTER

development at once becomes a constant check on the accuracy of the exposures, a means of attaining perfect harmony between the two, establishing a degree of accuracy not before possible. Let us digress a moment to bring into contrast the wrong and the right methods. Suppose that a plate has been developed and

the resultant negative is not satisfactory, the following will most likely cover the faulty procedure: The exposure was made without employing a system which made possible a predetermined or known correct exposure; development was conducted without positive knowledge as to the strength and temperature of the solution or of the normal time required to develop a correctly exposed plate of the class used; one or more variations in quality of the solution during development, made in order to improve the negative, were tried; or the plate was subjected to too close or prolonged examination against the ruby light while developing. Possibly previous failures had confused until the worker was ready to change plates, developer or the formula employed, and did so.

It is impossible to eliminate this confusion except by adopting a rational method of determining correct exposure. It is also absolutely necessary for one to adopt a fixed, correct method of development. With these more exact fundamental methods, one is enabled to obtain a high efficiency in his work. The early photographers had no scientific method of determining correct exposure and were therefore obliged to labor over the development of each negative in order to get it as satisfactory as possible. Today, efficiency, through scientific accuracy and improved methods, is demanded in all branches of human endeavor. Photography has already followed the old superannuated method far too long.

It is obvious that correct exposure is only possible in connection with a correct method of measuring the light. If the photographer is to build up a scientifically accurate and efficient method, he must be able to check up each step in his work so as to correct any errors and maintain a close approximation to accuracy throughout. He can check up his exposures only by having a correct, normal method of developing. He must know, before any certain act is performed, very nearly what its effect will be. As every step is a factor having a bearing upon the result, scientific measurement is demanded. The aim should be to not only produce perfect work, but to develop a rational system by which such perfect work may be assured. With a correct method of development, every fault in the previous steps is easily traced back to the cause which produced it, permitting one to immediately recognize the need of work to refine his light measurements, to use more care in getting tint exactly right, to hold the book or meter in the right place, to turn it exactly to the light, to count time more correctly. One is also prompted to study more carefully the contrast on the subject photographed and to vary the exposure as required by flat subjects as against those having a full range of actinic values.

The process of development, rightly carried out, consists in using any good standard formula, keeping it at about sixty-five degrees Fahrenheit throughout the time of its action, and permitting such action for the correct period of time. A few trials, if one is developing correctly timed plates, enables one to find the correct time of development, the time that gives the right result. One can use a fixed development time by regulating the quantity of water used in the developer so that, say, six minutes will give the proper degree of development. Working thus, development becomes quite mechanical, I must admit, but it becomes correct, exact, and to the same extent efficient.

Handling a "Detail"

By W. W. Bowers



With Illustrations by the Author



A NEGRO BAPTIZING CEREMONY

LOUISVILLE has newspapers, these papers have Sunday editions, these necessitate Sunday editors, these editors want "stories," these stories demand illustrations, and these illustrations are gotten by giving the staff photographer orders to get them, and I am that last functionary. My orders were to get some photographs of a negro baptizing ceremony, a number of which take place at the foot of First Street as the warm weather begins to advance each spring. I did not go to the trouble of making inquiries as to when the first baptizing would take place, knowing that it much depended on the weather. It

is the custom of the negro ministers to wait for the first warm Sunday of the spring; and, after rounding up the converts, march them off through the business section of the city to the river. My work rooms lying within a half a block of the usual line of the parade to the Ohio, I planned to pick up the crowd as it passed. This I knew I could easily do, as the marchers, as they drag along the street, indulge in a mournful sort of chant that can be heard several blocks. The weather, this time, was cold and disagreeable, it being the first of March. The wind was blowing a gale, but as the sun shone quite brightly at times, from indoors it looked quite balmy. However, indoors and the levee were two very different things. Had I not known that the reporter who was assigned to write river news would, in all probabilities, turn in a story of the baptising, I would have yielded to temptation and remained inside when I heard the procession coming up the street that Sunday afternoon. Excuses do not satisfy an editor, and I knew that if a baptising took place the pictures would be expected, so I secured my press camera and chased after the crowd.

CAMERA CRAFT

Just what caused the minister of this particular church to have the baptising so early in the spring I never learned, but I suppose that he was afraid that the ardor of some of his large group of converts would be dampened by too long a wait, and that they might thereby be lost. To avoid this possible danger, he had no doubt decided that the best thing to do was to perform the ceremony at the earliest possible date. On the day selected, services are held from early in the morning until about the middle of the afternoon, after which the congregation proceeds to the river, followed by a crowd of curious whites and blacks. The farther they march the larger grows the crowd, and on this particular Sunday the streets were jammed. After a short chase, I overtook the procession and made a couple of exposures; working at a disadvantage, as the sun, shining dimly over the tops of the houses, fell on the backs of the marchers.

Despite the cold weather, many of the marchers were very warm and tired from their long tramp, but stayed in line and shouted and sang as loud as the rest. Many old ante-bellum negroes limped along with their canes, casting contemptuous glances at the "low-down niggers" and the "po' white trash" giggling on the sidewalk. Frequently one of the sisters would be seized by a particularly strong hysteria, and make it known by a leap into the air and a whoop that would have made the wildest Indian green with envy. As one of the women became hysterical, those around her would give her plenty of room, for she generally proceeded to knock down everybody within reach and, in the space thus gained, indulge in a wild sort of dance. One such sister came very near causing my finish. I had taken a position in front of the procession, and as the crowd drew near I failed to notice that this sister, weighing about two hundred pounds, had just seen the light and was coming straight at me shouting "Glory hallelujah!" As she came nearer, she ceased singing and uttered a piercing screech, warning me just in time of my danger. Although it looked as if she had tried to run into me in order to add to the excitement, still, I am inclined to believe that in the fervor of her sudden religious zeal she was perfectly oblivious of her surroundings.

When I reached the levee, the water's edge could not be seen, so great was the crowd of people. Every dock, barge and shanty boat was covered with spectators. It was with great difficulty that a space was cleared for the congregation, force proving a greater factor than persuasion. Closing my camera, I held it in front of me and rammed my way through the crowd to the water's edge, narrowly escaping several fistic encounters. Reaching the water, there was nothing to do but wade out for a clear view, and this I did with the assistance of the eager spectators behind me. The water, cold and muddy, lapped my ankles and quickly filled my shoes; and, as the selected spot was directly beside a ferry landing with boats arriving and departing, the water was chopped up into huge waves that broke against my knees. It being impossible to escape, because of the crowd behind me, sharing the same fate, I could only stand as steady as possible and try to keep my camera and plates from getting wet. The parson, evidently thinking the opportunity too good a one to be overlooked, harangued the crowd for almost an hour, dwelling upon the dangers

HANDLING A "DETAIL"



DWELLING UPON THE DANGER OF EVERLASTING DARKNESS

of everlasting darkness, denounced the tittering, ignorant white folks, and dispatching two of the brethren on a collecting tour of the audience.

Under other circumstances I would have enjoyed his quaint sermon, but standing in the merciless water, my feet becoming numb, I would have enjoyed catching him by the back of the neck and sousing him in the river in the hope of starting the main attraction. While the harangue was in progress, one of



MARCHING OFF TO THE RIVER, WARM AND TIRED

the deacons took it upon himself to try and dislodge me from my position, claiming that I was in the way; but, with the courage that had enabled me to defy the terrors of the muddy river, I resolved not to move. During the argument a gust of wind caught the deacon's hat, carried it out into the water, and the crowd roared with laughter as the all-important deacon, frantically grasping for his hat, lost his balance and fell into the water. After his impromptu bath he decided that I was not in the way after all, and I was left alone. When the baptising finally did start, the sun, as is his custom, slipped behind an obliging cloud and stayed there.

However, I managed to expose the plates I had with me, and again fighting my way through the crowd, started for home and some dry clothes. But in spite of precautions, I suffered with a severe sore throat and a bad cold for the rest of the week. However, I felt amply rewarded when about two weeks later I saw my pictures occupying a full page in the paper.

Binding One's Own Magazines

By Effie M. Howlett



My method of binding magazines is not original. With a few changes in detail, I simply follow directions found in a periodical some years before I ever saw a photographic magazine. The chief merit of the plan is that it is essentially the same method as that employed in the best bookbinding. Careful examination of a well-bound, sewed book will prove this statement; and, if the reader will remove the cover and carefully dissect some discarded book, the intimate study of its anatomy will help to illustrate points which may seem obscure when first read.

The list of necessities is somewhat lengthy, but most of the articles, aside from the frame itself, will be found in the average craftsman's outfit. One will need a ball of good stout twine; a spool of coarse linen thread; a needle with a large eye and a point that is smooth and blunt; glue and paste, with brushes to apply them; a piece of shoemaker's wax, a lead pencil, a sharp, stiff-bladed knife or a fine saw, a pair of scissors, some large pieces of pasteboard, strips of white cotton or cheese cloth, and a supply of whatever cloth or leather one may choose for covers. I find pieces of dark cotton or linen, left from making house dresses, very satisfactory. Lacking these, remnant counters furnish many grades of suitable and inexpensive material. A stout awl and a small pair of pliers will be found convenient for removing the wire staples from the backs of the magazines, and they sometimes prevent the tearing of the paper that may result if one does not have them. The frame must be firmly put together, as it is given considerable strain in the work. The baseboard should be at least an inch larger all around than the largest magazine to be bound. The upright posts are about six inches high. Long tacks or short nails are driven into the cross-piece and a corresponding row directly below them in the edge of the baseboard.

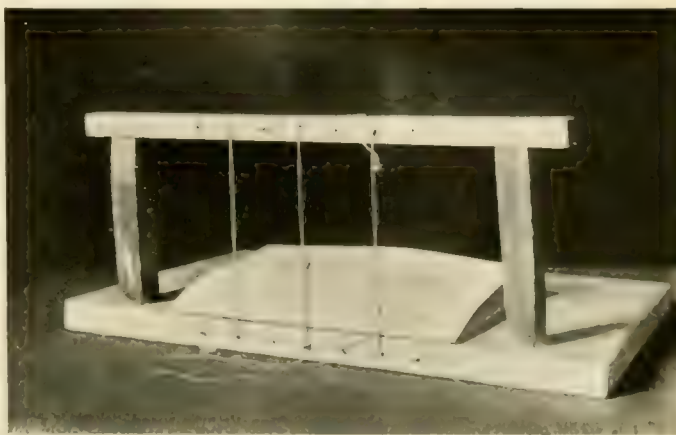
BINDING ONE'S OWN MAGAZINES

Three tacks in each row and about two inches apart are all right if you bind only magazines like CAMERA CRAFT, but seven tacks spaced a little closer, as mine are shown, provide for larger or smaller pages at will. Stretching three lengths of twine tightly between the tacks, fasten them, and one is ready for his first book. Remove the covers from your magazines and begin by placing the December number, title page up, with the center of its back edge against the center twine. Add the others, in sequence, the same way. Hold the pile perfectly true and make a heavy pencil line across the backs close to each string and also two others, each about midway between the magazine ends and the nearest strings. Using the knife or saw, make a cut through the backs at each pencil mark, making it about one-sixteenth of an inch deep. Now carefully remove the wire staples which hold the sections together and rub off all the glue you can. Also discard the advertising sections where they do not include reading matter. Should any loose single leaves result, run a little paste along the inner edge and attach to the nearest section. Thread your needle with a length of well-waxed linen thread, take a single fold of the advertising sections, or better, a sheet of white paper folded to correspond to the size to form the fly leaves, place in position right side up



SOME TOOLS USED IN BOOKBINDING

with the center cut against the center twine. Open the leaves at the center fold, pass the needle in through the "kettle hole" (the cut nearest the end), leave about one and one-half inches of thread hanging out, bring the needle out the next hole, and back again on the other side of the twine. If correctly done,



THE BINDING FRAME. FLY LEAVES IN PLACE

CAMERA CRAFT

you can gently draw the upright strands of twine into the saw cuts as the stitching proceeds. Keep the thread taut and continue through the other holes, finally coming out through the kettle hole at the other end. Place the last section of the December number in position and repeat the process back to the starting point, to be inserted last before the front fly leaves are sewed in. The title page and index will generally be found in the December number and this double sheet should be removed. Then firmly tie the hanging end of thread to the strand in the needle. When the thread is too short, pass it into a hole and tie it to the end of a new needleful. You can find these knots and their construction in the center folds of any sewed book. Never make them, the joining, on the outside. Remember to see that your pages are in proper order and always commence sewing at the back of the book, finishing with the title page and not forgetting the final fly leaves. Frequently the frontispieces are single leaves which cannot be sewed. These may be laid aside for a portfolio or they may be fastened in place as you come to them by a little mucilage, gumming them to the proper sections before sewing in the latter. When the sewing is complete, fasten your thread securely at the kettle hole by looping it, buttonhole stitch style, on the preceding threads until it cannot slip. Then cut the upright twines, leaving about an inch extending beyond the edges of the stitched sections. Cut a piece of cheese cloth two inches wider than the back of the volume and long enough to reach past the kettle holes. Glue this to the back, rubbing the glue well into the stitches and the whole length of the back, placing under a weight to dry. For the cover, take two pieces of pasteboard, one-eighth of an inch wider and one-fourth of an inch longer than a page of the magazine being bound. Take two thicknesses of paper (some of the discarded advertising pages will do) and cut them just to fit the back of the book, making a slight allowance for take up if you use a very heavy pasteboard. Place the two pieces of pasteboards down on the cloth for the cover, keeping them in line, but a distance apart equal to a little more than the width of the back. Make the cloth large enough to lap well over the edges on the inside, paste or glue all smooth, and put to dry under weight.

To place the covers on the book, ravel the ends of twine, place the volume between the covers and glue first the raveled twine and then the cheese cloth backing to the cover; when in place, paste one fly leaf down on the inside of each cover. Sometimes two leaves can be fastened to the cover, making the join at the back that much stronger. Do not glue the back of the book to the back of the cover; leave them separate as you find them in professionally finished work. When the book is complete, I generally paste one of the magazine covers, trimmed down a little, on the front to aid in identifying the year, etc.

A refinement of the work lies in sending the sewed sections out to any printer and having him trim the edges before the covers are put on. He will charge only a few cents for doing this. Another improvement can be effected by placing these sewed and trimmed sections in a wide-jawed vice or between two boards clamped together and rounding the back by means of a flat-faced hammer, making the back more compact at the same time. As before suggested, much will be learned by taking apart some discarded book.

PARAGRAPHS PHOTOGRAPHIC

Kindly Contributed by Our Readers

Our readers must remember that this department depends upon their own efforts. If all hold back and wait for others to furnish the little hints that make it so valuable and interesting, there will be no continuation, there being no material. Send in your contribution; the editor will see that it reads all right; and, as he gets around to it, he will send you a print or something in return for your kindness. Perhaps that last will induce you to do your share.—
THE EDITOR.

USING A TANK: Manufacturers of developing tanks generally advise that both developing and fixing can be done in the same tank without injury either to it or the negatives. However, my experience has been that the tanks themselves become corroded after considerable use and I have had negatives injured thereby. I adopted a method that avoids this danger. I never use the tank itself for fixing, but after development is completed, transfer the loaded kits or racks to another receptacle containing the fixing bath. Upon purchasing a new kit or rack, I paint it with "Black Asphaltum Varnish," obtainable at any paint store, for ten or fifteen cents a pint. This varnish is acid proof in the same measure as any regular tray enamel, but it is much cheaper. Of course, the rack is a mere framework, having very little surface exposed, and, consequently, when these small surfaces are given a coating of the varnish they are absolutely protected from the action of the acid fixing solution. When this coating of varnish becomes worn, or slightly eroded, I put on another coat, which takes but a moment. In this way the tank itself never becomes injured by the acid fixing solution, and the kit or rack is so well protected by the frequently renewed varnish that there is never any danger of injuring the negatives by a contaminated tank. I also have the nearest tinsmith make a small galvanized-iron pan to fit the different size kits or racks used, and paint the inside of this pan with the same black asphaltum varnish. The pans have usually cost me in the neighborhood of twenty or thirty cents each, depending on the size, and when once painted on the inside with the varnish, become acid proof also; this again can be revarnished at any time when it becomes necessary. In other words, by the above method I always have kept my developing tanks free from danger of contamination and it is a very small matter to transfer the kit or rack containing the plates directly to the tin pan containing the acid fixing solution, always having, at the same time, absolutely clean utensils. The varnish is very cheap, though I have always inferred that it was the basis of the usual tray enamel that is sold at rather a high price. The cost of the making of extra pans is practically nothing, and they can be made in any size to fit the racks. The varnish is quick-drying and the article painted can be used two or three hours after its application. D. L. Billings, Kentucky.

CAMERA CRAFT

PRINTING POST CARDS: A simple method of printing post cards from various sizes of film negatives is to cut a beveled opening in the back of an 8x10 printing frame, one-sixteenth inch larger each way than post card dimensions, having one edge include the spring in the longer half and a portion of the hinge. If the back is not fitted with a piano hinge, a small extra hinge may be necessary to retain the cut-out portion in place. With the shorter section of the back clamped in position against a piece of 8x10 clear glass, the film-negative, together with a matt of suitable shape, is placed in position and the skeleton portion of the back closed upon it. With ordinary care in placing and removing post cards, the film and matt will remain in position without an additional clamp.—W. H. Wilcox, Washington, I. P. A. 123.

SENSITIZER FOR SEPIA TONES: Paper must be free from impure chemicals and perfectly clean; use a tuft of cotton (c. p.) to apply the solution to the paper.

Ferrous sulphate	220 grains
Tarraric acid	220 grains
Ferric chloride, dry.....	440 grains
Distilled water	10 ounces

Paper coated with this solution will print out like blue-print paper and is fixed by using:

Water	60 ounces
Hydrochloric acid	1 ounce

Wash thoroughly for about forty-five minutes in running water.—Louis S. Todd, Michigan.

STRIPPING FILMS: Every one seems to have a pet method, one they think the best. My criticism of them is that they all seem to have the "chemical habit." Many of the plates not wanted can be discarded directly from the fixing bath, for they are then seen to be no good and can be condemned instantly. Right then is the easiest time to clean them, and a methodical worker, which each of us ought to be, will not lay a thing down till it is laid down right. Take the plate from the hypo and hold it under the hot water faucet—not so hot as to burn the hands, and in fifteen seconds the film will slip off very easily, leaving the plate as brilliantly clean as it is possible to make it. When the emulsion softens, slip it off with the thumbs. Plates that have dried should be soaked well and then subjected to the hot water. The emulsion will dissolve from the plate without being handled.—C. R. Lowe, Iowa.

TIMING PRINTS: For the timing of prints on developing paper I have for years used a cheap alarm clock, one giving four loud ticks every second, as I think most of them do. The cheaper the clock the louder its tick, as a rule; both desirable points for the user. I count one for every fourth tick, and one can soon learn to time printing unconsciously. I begin with the mental word "now" the instant the frame is placed before the light, thus: "Now," tick, tick, tick, "one" (for fourth tick), tick, tick, tick, "two" (for eighth tick), etc., being one count for every second. Recently a clock has been advertised especially for the timing of prints, but I understand that its hand must be watched, while with

PARAGRAPHS PHOTOGRAPHIC

my plan the ear only is used, permitting the development of prints or other work while counting, where the printing time is ten seconds or longer.—W. H. Wilcox, Washington, I. P. A. 123.

DEVELOPING PRINTS: In the development of prints on developing paper, I use a swab of absorbent cotton fastened by a small rubber band upon the end of a narrow strip of glass, ten or twelve inches long and one-half inch wide. For little or nothing one can have several such strips cut from scraps of plate glass, and after smoothing the edges with coarse emery paper they will make excellent stirring rods or developing swabs. By this method only the tips of the left thumb and forefinger touch the developing solution, and the swab insures thorough immersion of the print and immunity from air bubbles. For the fixing bath I use a larger swab, and as this does not require fresh cotton each time a wooden stick, somewhat longer, is more convenient than a glass rod.—W. H. Wilcox, Washington, I. P. A. 123.

IMPROVISED FOCUSING SCREEN: When one's ground-glass focusing screen is broken, as will sometimes happen while out on a trip, a substitute can be improvised by putting a dry plate in place of the ground glass broken out. The film side should be the same way as the ground side of the broken glass. The emulsion will darken after a time so that it becomes difficult to use, when one can wash off the emulsion, lay on a piece of tissue paper trimmed to the size, and smear with any kind of clear oil or grease. Machine oils, lard, oleo, lard substitute, etc., will make the paper more transparent and at the same time make it adhere to the glass enough for practical use.—A. A. Richardson, Minnesota.

SAVING TIME: In making prints, 4x5 or smaller, I find the work of developing, fixing and washing may be reduced one-half by using double-size sheets of paper, folded backward through the center, making two prints on each sheet; as, for example, 5x8 paper for 4x5 prints, 4 $\frac{1}{4}$ x6 $\frac{1}{2}$, or 5x7 for 3 $\frac{1}{4}$ x4 $\frac{1}{4}$ prints. If the paper be a light weight, it might be advisable to insert a sheet of black paper in the fold to prevent light striking through. One might go even a step farther and by an extra fold make four prints on each sheet, especially in the small sizes like 2 $\frac{1}{4}$ x3 $\frac{1}{4}$ films.—W. H. Wilcox, Washington, I. P. A. 123.

REDUCER STAINS: In regard to Mr. Rowles' paragraph under this title in the September issue, I would add the following as pertinent. In all after manipulation of dry plates, as the reader is no doubt aware, the very success depends upon having the plate free from hypo. To my knowledge there is no process that has such an effect as the permanganate-sulphuric acid reducer. If the hypo has been absolutely eliminated, there will be no stain. If there is one single trace of hypo left, one can safely wager his last dollar that he will have all the stains that he is looking for.—Raymond Thrasher, Tennessee.

AN IMPROVISED FOCUSING CLOTH: If you find yourself without a focusing cloth, do not lament nor pass up the picture you want. Slip off your coat and use that. You will find it more convenient than any cloth. The wind will not whip it and spoil your patience, and it will hang over your shoulder so

CAMERA CRAFT

conveniently when you wish to let it from your fingers a moment, and it can always be gotten easily. The ladies can use their jackets in the same manner. I never think of carrying a focusing cloth.—C. R. Lowe, Iowa.

A NON-POISONOUS DEVELOPER: I recently found the following formula in my scrapbook in my chemical room; I do not know where I clipped it, so cannot give credit. It is as follows:

Water	10 ounces
Edinol	20 grains
Hydrochinone	20 grains
Sulphite soda, anhydrous.....	250 grains
Potassium carbonate	450 grains
Bromide potassium, ten per cent sol.....	20 drops
Oxalic acid, ten per cent sol.....	20 drops

For use on paper, dilute to forty ounces. I tried this on some daylight enlargements made on Argo paper and it worked fine. As it is non-poisonous, some other worker might like it.—E. G. Berkey, Indiana.

A VALUABLE BOOK: During my photographic experience of the last eight years I have made it a practice to preserve all of the formulas for different papers, plates and films and now have a book of four hundred and fifty pages, well indexed, with all formulas in their original form, and in regular order. Whenever I need a formula for a given purpose, I know, by looking at the index, exactly where to find it. Perhaps, some time in the future, I will have these formulas, etc., published and put the book on the market, as I know it would be a great help to many amateurs and professionals.—Louis S. Todd, Michigan.

INK FOR TITLING NEGATIVES:

Potass. iodide	2½ ounces
Water	6 ounces
Iodine	¼ ounce
Gum arabic	¼ ounce

Dissolve gum in water by heat, filter or strain, and add chemicals in order given. Keep well stoppered and shake well before using. Write titles with a fine steel pen, preferably an artist's line pen.—Louis S. Todd, Michigan.

DEVELOPER STAINS: When prints on gaslight paper have not had the developer well rinsed from them, the hypo causes a brown or yellow stain to appear. It is generally supposed that it was impossible to get rid of these stains, but I have found that they can be removed as follows: After fixing, wash for half an hour and then apply hydrochloric acid with a camel's-hair brush to the stain until it disappears. Wash again for half an hour and then dry.—F. S. Dotterweich, New York.

TROUBLESOME COVERS: Sometimes the covers of paste jars refuse to come off. To remove them, turn the jar up side down in a pan containing just enough water to cause it to stand upright without tipping over. Leave it in that position half an hour and then try the cover. If it still refuses to move, return to the pan for a longer period.—E. L. F., Wisconsin.

CAMERA CRAFT

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To the Pacific Coast Pictorialists

It is, of course, too early to make any prediction as to the position photography, pictorial photography in particular, will be allotted in the scheme of things as arranged by the directors of our coming Panama-Pacific Exposition. However, the officers of the American Federation of Photographic Societies, the gentlemen who are responsible for the annual salon exhibited throughout the East from season to season, have inaugurated a plan that will place it in a position to make the best possible showing under any conditions that may be arranged by the Exposition officials. This plan, briefly, is simply the retaining of a certain number of the best pictures from each of their annual salons, beginning with the one last held, and from these selected pictures making up an exhibit to be hung as advantageously as the obtainable accommodations will permit.

It is obvious that this plan will result in an exhibition of representative work that will entitle the collection to the best consideration of those having the placing of such exhibits. And, should photography be so unfortunate as to receive less than its just due as to favorable presentation, it is also obvious that this collection will be of such merit as to attract a favorable share of all attention the visiting public may be permitted to bestow upon photographic productions.

This brings us to the point that most vitally concerns the pictorial workers of the Pacific Coast. No matter what other representation they may secure, they cannot afford to do other than their best to obtain representation in this exhibit that will be submitted by the American Federation of Photographic Societies. And to obtain representation they must submit pictures in the regular way for acceptance for the coming salons. Reference to our leading editorial in the September issue will show that we solicited, although rather too late for the best response, entries for the Ninth American Salon. A disappointingly small number of pictures came to us for forwarding; yet, of those sent, a high average received recognition by being accepted, showing that our Pacific Coast workers need only cast aside their disinclination to submit their work in order to present effective and convincing testimony as to their ability as pictorial photographers.

It is doubly important that the Pacific Coast workers make a showing in some measure commensurate with their skill in this, the coming Exposition, an Exposition distinctly our own. Even should they be given recognition in another form, it is important that they show themselves willing and capable of measuring their work by the side of the large number of prominent workers who are yearly

represented in the salons of the American Federation. These salons are certainly representative, their annual recurrence and wide circulation throughout the eastern portion of the country gives them enviable prestige, and our Pacific Coast workers must recognize the importance of representation therein. The closing date for entries is generally around October first. We trust that all our readers who are aspiring to pictorial work will bear this plea in mind to the end that our call for entries next year will find them prepared and willing to send of their best. The Federation allows our workers the privilege of sending unframed pictures, and we will willingly pay the charges for forwarding and returning all pictures sent through our office. But the main thing, the real effort, depends upon our pictorial workers themselves, individually as well as collectively.

The Photographers' Association of California

Our State Association of professional photographers, despite the fact that no convention has been held for the last few years, is very far from being a defunct organization. The full membership has been maintained, its officers are still enjoying the honor their position carries, and there is, best of all, a neat little sum in the treasury carefully guarded by a most trustworthy trustee. With this situation made known, we would like to advise that the officers appreciate fully the responsibility that rests upon their shoulders in the matter of securing, if possible, the holding of the National Convention in this city in 1915. It might be permissible to explain, at this late date, that quite elaborate preparations were made to work up to the capture of the National a few years ago, as it usually took at least two years' effort to get it, and that length of time brought the date within the zone of the Exposition datings, the idea was abandoned at that time. Just what the Association, through its officers, is doing or will do in the present situation is not of general interest until definite progress can be reported; but the officers feel that the announcement should be made that they are keenly aware of the fact that action is looked for from them and that they expect to do other than disappoint these expectations.

A Correction

Submitting to Mr. Boyd a number of letters which had reached this office complaining that the enlarging apparatus, constructed according to his directions given in our October issue, seemed incapable of giving an enlargement free from an image of the lamp filament without the interposing of a ground glass between the lamp and negative, we received the following reply:

"Since invading the field of photographic literature, I have received numerous replies to each screed submitted, but those regarding this last, on Condenserless Enlargers, are provokingly embarrassing to me, in that they disclose a 'bull' which is quite inexcusable. Twice I spoke of using a clear bulb lamp when I clearly intended to specify a 'full frosted bulb.' Should one use a 'clear bulb lamp,' at least one sheet of ground glass would be essential, but the sand blast etching on a frosted lamp bulb is of much less density than the usual ground glass, and it is therefore much more desirable. Kindly make notation that the use of the word 'clear' was an oversight and that a full frosted bulb is the one to use."

A PHOTOGRAPHIC DIGEST

Edited by H. D'Arcy Power, M. D., Burlingame, California

Destructive Influence of the Alkalies on the Gelatine Film

The *Photographische Wochenblatt* publishes an article on the above subject by Lumiere and Seyewitz, with details of experiments that lead to the following deductions:

1. Aqueous solution of the caustic alkalies completely destroy gelatine, their activities being proportionate to their concentration and temperature. Potassium, sodium and lithium hydrate give exactly the same results if the solutions are made in the ratio of their molecular weights.

2. Aqueous solution of ammonia, weak or strong, do not destroy gelatine in the cold; even prolonged development only causes swelling and expansion of the film. Heat will cause solution, but only at the same temperature as would occur with water.

3. The alkaline carbonates and tribasic sodium phosphate in weak or concentrated solutions not only fail to affect the gelatine but hinder its solution in cold or hot water, and at a proper concentration will permit of temperature of 100 deg. centegrade.

The practical result is that in preparing developers the alkaline carbonates and ammonia are equally available without regard to possible solution of the gelatine. On the contrary, the alkaline hydrates are to be avoided, and when they are demanded they should be replaced by the tribasic sodium phosphate that with certain developers acts in the manner of the caustic alkalies.

The Hydra(zene) Emulsion

It is now several months since I announced the wonderful news from London that over-exposure was to be a thing of the past, that the tyro, doubtful, the correct exposure time, would just open the shutter and forget about it; ten to one thousand times the necessary exposure would be more than enough, you could not

over-exposure. That was about what some of the enthusiastic experts said. It is true that the *British Journal of Photography*, with official caution, did not echo these ecstasies; and late, when the wonderful hydrazene emulsion appeared on the market, fathered by the Paget Company, under the trade name of Hydra plates and papers, there was a decided absence of enthusiasm in the report of the test results. We now have had the Hydra plates in San Francisco for some weeks and are in a position to judge for ourselves. Personally I have used three of the products, the negative plates, the lantern slides, and the ivorettes. First, as to the plates: The directions tell us that over-exposure up to forty times the normal can be developed with an ordinary developer and yield good negatives; that beyond this up to one thousand times requires the use of a special physical developer supplied by the firm. These excessive illuminations can only be of scientific interest, as no sane photographer is likely to exceed an error of forty times or seek to equalize contrasts of greater gradation.

Using a Portrait Isonon for purposes of comparison, an exposure was made on a figure sitting in the shadow of a mass of complex foliage. With the Isonon plate, one-tenth of a second gave a satisfactory negative of the face and figure with under-exposure of the depths of the foliage. A similar exposure with the Hydra plate gave hopeless underexposure of all parts of the subject. Further experiments show that it has about half the speed of the Portrait Isonon. Taking one-fifth second as correct for the figure with the Hydra plate, an exposure of five seconds was given; that is, twenty-four times the normal for the figure. The resulting negative looked very flat and gave a print with excessive detail, even in the darkest shadows. It was scientifically interesting; as picture, valueless. An over-exposure of the same amount made

on an Isonon plate and developed with a greatly restrained developer gave about the same result. Many other exposures since made have not materially changed the judgment formed on that first test. Greatly overexposed negatives will print, but the prints are not interesting. Some of the best results that I have seen have been full exposures on a figure in a white dress in sunshine, in which detail in both light and shadow were preserved in a manner quite remarkable. The truth seems to be that the emulsion will not reverse under any exposure, but the silver deposit piles up proportionately to the light exposure, and as the heaviest deposits cannot be printed out, the scale of gradation shortens up proportionately and flatness is the result. The opinions here given are borne out by the investigations of O. Mente as reported in *Das Aletier der Photographen*. The Hydra plate may find a field of utility, but it will not displace those now on the market. Incidentally I noticed a curious fact; namely, that while overexposure will not produce reversal, underexposure may. In three instances the parts most underexposed completely reversed on prolonged development.

As to lantern slides; their peculiarity lies in that they may be either exposed and developed in the ordinary way, or printed out like solid paper. Used in the first manner they will be found to yield about the same kind of positive as other plates. They are very slow, require two to three times the exposure of a Seed lantern plate. In the hands of some of my friends the results tended to hardness. Used in the printing out method, they are very interesting and offer some marked advantages. An ordinary negative gives a good slide in from five to ten minutes in direct sunlight. If the subject is one in which shadows and dark masses predominate, simple fixation in hypo will give a slide of beautiful sepia tint. Where the subject matter is not of the chis character the slide will probably require toning. This can be done by any of the toning baths used for printing out papers and will give a great variety of tones. Furthermore, I find that these printed out slides can be bleached and colored with aniline dyes, as in the Traube method described in the December, 1911,

issue. Apart from the varieties of tone thus obtainable the printed out plate has a wonderful scale of gradation; for example, I had the loan of a lantern slide of some mountain scenery showing water and rocks in strong sunlight, with very faint but quite necessary high-light detail, and equally important shadow detail in a mass of very dark trees. I wished for a copy of this slide, but by no means could I succeed. I made negatives by contact in the camera on rapid and slow plates; I tried direct reversal, and a carbon negative, but always when I made my duplicate I had lost either the high-light or shadow detail. I had long given it up when the Hydra lantern plate came to hand and it occurred to me to make a printed-out negative and therefrom a printed-out slide. The result was an easy and perfect success. This result leads me to believe that the Hydra lantern plate emulsion, coated on larger plates, would be an ideal medium for making duplicate negatives. This property of giving fine gradation enables me to print useful slides from very hard negatives. The Hydra lantern slide is a valuable addition to our plates and I believe will become a favorite.

I have also used the Ivorettes; that is, thin celluloid marked in imitation of ivory, coated with an emulsion like the lantern slides. For vignettted heads and similar subjects it gives beautiful effects. The images can be tinted from behind like the cysttolemus of former years. They also give excellent results with my Dichrome process described in a former issue.

Taken all in all, we clearly have a real advance in the discovery of this emulsion, but I see no reason to believe that the normal difficulties of correct exposure with every day subjects are likely to be greatly lessened by its use.

H. D'ARCY POWER, M. D.

EDITORIAL NOTE: Hydra plates can be obtained of several local dealers here in San Francisco, among them being Hirsch & Kaiser, Marsh & Company and others. Varied results have been secured by different workers, but all find them an interesting experiment.

THE AMATEUR AND HIS TROUBLES

Conducted by Fayette J. Clute

Some False Standards

Why is it that the average amateur is so slow to appreciate the fact that portraiture is not a matter of a skylight and painted backgrounds, with perhaps an added doubt as to the possibility of doing anything with other than a "portrait" lens? True, the idea is not so general as it was a few years ago, and yet it is by no means an uncommon one. It is simply the result of a thoughtless assumption that the professional must be doing it right, and any other way must be wrong. True, the professional, almost universally, use a skylight, and most of them use a painted background, but they do it because a permanent location and the ability to make portraits in all weather demands these things. The same mistaken idea seems to be held concerning other details and methods. The amateurs of the country are always found using, mainly, the same kind of printing process that the professionals employ. They never stop to think that the professional is governed in his selection by the necessities of his business. The professional demands speed, the ability to turn out a large number of prints in a short time, regardless of the weather. Ask any professional, and he will tell you that he would gladly turn out everything on carbon or platinum if his business permitted him to use these mediums. The amateur, the worker who would really gain by decreasing his output and increasing its quality, fails to realize the beauty of these processes. The professionals use a certain thing, and his doing the same is evidence that he is in the advanced class along with these superior photographers. It reminds me of the experience of an amateur friend some years ago. His knowledge of photography was so limited that he did not enjoy much of a reputation as a source of information among those who knew him. But going out in search of pictures in the park, equipped with a borrowed view camera of some size and showing some wear,

he was agreeably surprised to find that the outfit at once branded him as an old experienced photographer from whom most authoritative advice could be obtained by the less knowing users of small cameras. This friend, I am sorry to say, seemed to enjoy posing thus advantageously, and so doing really resulted in his acquiring a very good working knowledge of photography. This confirms another belief of mine, namely, that about the best way to improve one's knowledge of photography is to try and help along others that know even less.

Those Foreign Cameras

Just about so often some visitor will, in discussing photographic matters, express surprise, regret, or some other deplorable frame of mind over the fact that some certain camera he has seen or read about is obtainable in Germany or some other foreign country, but not here. If we only had cameras like it in this country it would be so much better for us all, for photography, and for everything else, including the high cost of living. Invariably the complainant is a worker who fails to realize even a fractional part of the possibilities of his own camera, doubtlessly would do no more or no better work if he had the use of every form of camera made today. The great trouble is that the average amateur misses the point entirely. He should realize that each and every camera has its limitations. It is, this scale of limitations, sufficiently long, even in the most inexpensive cameras, to encompass work of a considerable variety and of much merit. It is even affirmed by many whose opinion is worthy of consideration, that the more expensive and complicated cameras have, if not a really shorter range of possibilities, the disadvantage of being so burdened with adjustments that a good part of their capabilities rarely come into use. The American made camera is a model of simple efficiency within a desirable scope, of lightness and compactness with

due regard to other features, and of strength and wearing quality without needless weight or unnecessary addition to cost. The simple fact that the exact duplicate of several of our American lines of cameras, as well as several of these lines themselves, enjoy large sales in these other countries, in direct competition with these wonderful foreign cameras that are so superior because not easily obtainable here, should convince us that we are not at such a great disadvantage as an occasional pessimist might lead us to believe. The truth of the matter is, the best of the foreign cameras, in the small or popular sizes, are obtainable in this country, and a larger line would be made available were our wide-awake dealers at all assured that any demand could be found.

Working Within One's Limitations

I should really head this, *Employing One's Capabilities to the Full*. The last paragraph left unexpressed an idea that I think is worth mentioning. The average worker is not limited by the capabilities of his apparatus one iota of the extent he believes. About a month ago an amateur was in this office explaining that he owed his start in photography to the chance purchase of an Adlake camera that he saw piled up with a few hundred others in a shop window, marked seventy-five cents. It took him only a few weeks to find out that the camera was useless, obsolete, nothing but a tin box made to sell, a contraption that had not been on the market for a number of years. He threw it in the ash barrel, and bought a real camera. The following week we found a very fine one-man exhibit covering the walls of the Camera Club; and, upon enquiry, learned that the work in all its variety and with all its artistic quality was the production of an Adlake camera in the hands of a man who realized that the making of pictures was not so much a matter of the camera as it was of knowing the capabilities of the instrument, and working within its limitations. An early issue of this magazine will contain an article covering this gentleman's work, together with reproductions of a number of his pictures. But the point I started out to make, the idea I wished to express, is contained in

the above comparison between the mental attitude of two different workers. And yet, I do not wish to be understood as decrying the advantages of the best apparatus. The worker should provide himself with the best tools he can obtain with a due regard to the length of his purse; except, perhaps, he may find pleasure and gratification in seeing just how far he could set aside or discredit the generally accepted idea that an inexpensive outfit means mediocre results. This, I imagine, is what my friend of the Camera Club is doing; or rather, this I imagine he finds interesting—as he is certainly doing it.

Another Sort of Limitations

Did you ever stop to think that selecting for subjects such scenery as is in itself a portrayal of beauty and grandeur is but inviting comparison with the work of the painter; is, in fact, emphasizing the limitations of photography. And yet this is just what the average worker is doing, or regretting that he cannot do, because there is no grand or beautiful scenery in his immediate location. If, instead of longing for idyllic scenes he will but turn his attention to the commonplace, everyday ones about his own door he will stand some chance of emphasizing the value of photography as a means of recording events and surroundings, the everyday occurrences, the field in which photography is particularly effective. These homely scenes make real pictures, pictures capable of bringing up a flood of pleasant memories in the beholder, pictures that will give one's work interest and earn for it appreciation. But best of all, they are of a class that does not emphasize the limitations of photography as compared with paintings, at least, not to the same woeful degree as do attempts at the portrayal of grand scenery such as the painter readers with such added charm as his skill with color permits.

Chemically Pure

The initials "C. P." after the name of a chemical stands for "Chemically Pure," indicating that the chemical called for by the formula is of the quality so known and branded and not the ordinary or "Commercial Grade."

INTERNATIONAL PHOTOGRAPHIC ASSOCIATION

The Portfolio Division

The first Portfolio of the International Portfolio Division of the I. P. A. has received such general commendation from all who have seen it that it has been suggested that a few of the prints therein be reproduced in this magazine each month. The contributors approving, this will be done. It is to be understood that such pictures as do not appear are not omitted for want of merit, but because of unsuitability to employed methods of reproduction or from lack of interest to the larger number of readers. The best pictures sometimes must, for one or another reason, be passed over. This is not a matter of favoritism, neglect, or prejudice.

The New Division

Attention is called to the new division of the I. P. A. to be known as the International Portfolio, of which Sigismund Blumann is the General Director. Membership in this demands certain qualifications and is open to any member of the I. P. A. who shall meet those requirements and whose work is up to a certain standard entitled to a place in a collection made up of the best endeavors of American and foreign photographers. All subscribers of CAMERA CRAFT who desire to receive the benefits of a world-wide perspective of what is being done by their fellow amateurs and who feel able and willing to strive for the best are cordially invited to communicate with and send two of their representative prints to Sigismund Blumann, 3217 Davis Street, Fruitvale, California. Foreign members are urged to send in their pictures as soon as this reaches their notice, as the Second Portfolio is being compiled as rapidly as possible by the January Portfolio Director, Nick Bruehl.

The New Camera Club

Waldo E. Thomson, Secretary of the Alameda County Society known as the Bay City Camera Club, I. P. A., Chapter No. 1, reports favorable progress, but hopes to hear from

many more earnest and ambitious photographic workers on his side of the bay before calling a general meeting to consider ways and means and ratify a constitution. All residents of Alameda County are urged to write at once to Mr. Waldo E. Thomson, 3211 School Street, Fruitvale, California.

New California Album Director

Mr. Blumann having been forced to resign as California Album Director through press of other I. P. A. interests, Dr. G. P. Flores has assumed that office. Mr. Flores is peculiarly fitted to make the future albums even finer than hitherto.

Officers of the I. P. A.

F. B. Hinman, President, Room 4, Union Depot, Denver, Colorado.

J. H. Winchell, Chief Album Director, R. F. D. No. 2, Painesville, Ohio.

Fayette J. Clute, General Secretary, 413-415 Call Building, San Francisco.

James B. Warner, Director Stereoscopic Division, 413-15 Call Building, San Francisco, Cal.

Charles M. Smythe, Director Post Card Division, 1160 Detroit St., Denver, Colo.

NOTE.—All stereoscopic slides sent to Director for the circulating sets must be mounted, titled, and show the maker's name and I. P. A. number on the back of mount. Notify the Director how many mounts can be used, and a supply will be sent you by return mail.

NOTE.—I. P. A. members, or applicants for I. P. A. membership, desirous of joining the Post Card Division, should enclose three or more cards of their own make to the Director for approval. If they are of requisite quality a letter "X" will be placed after the member's number indicating membership in the Post Card Division. Always request a new notice in renewing your subscription. When desiring a reply from the Director, kindly enclose stamp. Address Charles M. Smythe, 1160 Detroit St., Denver, Colo.

George E. Moulthrop, Director Lantern Slide Division, Bristol, Conn.

Edward F. Cowles, Secretary Lantern Slide Division, 11 Oak St., Bristol, Conn.

MEXICO.

Vice-President José Ramos, 2a de Morelos 44, Morelia, Mich., Mexico.

Album Director—J. Jesus Martinez, Ap. 5, Morelia, Mich., Mexico.

CANADA.

Album Director—C. H. Foster, Kerwood, Ontario, Canada.

Secretary—J. A. Waddell, Kerwood, Ontario, Canada.

CAMERA CRAFT

FOREIGN SECRETARIES.

- French—Charles A. Wargny, 247 Torrence St., Punxsutawney, Pa., U. S. A.
 German—George N. Baumiller, Nutwood, Ohio.

NEW MEMBERS

- 3470—Fred McBride, Box 38, Ramona, S. D.
 $3\frac{1}{4} \times 5\frac{1}{2}$ and 5x7, developing paper, of landscapes and portraits; for landscapes or general views. Post cards or prints. Class 1.
 3471—Chas. J. Moore, Tamora, Neb.
 Class 3.
 3472—U. Sylvester Hess, 223 N. Franklin St., Janesville, Wis.
 Class 2.
 3473—George B. Propp, Merricourt, N. D.
 Class 2.
 3474—Vera Bauman, Box 255, Leavenworth, Kan.
 $3\frac{1}{4} \times 5\frac{1}{2}$ and smaller, developing paper, of general views; for the same. Class 1.
 3475—Roy R. Fetterhoff, Box 656, Chicago Junction, Ohio.
 4x5 and post cards, developing and printing-out papers, of rural, railroad construction and a few good domestic animals, also some excellent groups, both daylight and flash-light; for mountains, lakes, construction work, portraits, or any interesting subject. Class 1.
 3476—Mary E. Spence, Anamoose, N. D.
 Post cards, of only a few that would do for exchange now. A few Wisconsin and North Dakota scenes; for landscapes, either historical or typical. Post cards or prints. Class 1.
 3477—G. L. FitzWilliam, Box 508, Ely, St. Louis Co., Minn.
 $3\frac{1}{4} \times 4\frac{1}{4}$, 4x5, $3\frac{1}{4} \times 5\frac{1}{2}$, and 5x7, developing and printing-out papers, of hunting, mining, woods, and studio portraits; for marines, nudes, high-speed work, and studio portraits. Class 1.
 3478—Ben F. Witt, Box 53, Shawmut, Ark.
 Class 2.
 3479—Ala O. Mosier, Canyon City, Ore.
 4x5 and $3\frac{1}{4} \times 5\frac{1}{2}$, developing paper, of various, landscape, street, typical scenes, etc.; for street scenes, comic, etc. Post cards and 4x5 prints. Class 1.
 3480—Miss Mary Emma Yeo, 1719 East Colorado St., Pasadena, Cal.
 Class 2.
 3481—C. Fred Vollmer, Box 75, Bucyrus, Ohio.
 Class 2.
 3482—A. P. Linn, Box 143, Granger, Wash.
 4x5, developing paper, of landscapes and portraits; for landscapes. Post cards only. Class 1.
 3483—Homer M. Sevey, 627 Fresno Ave., Fresno, Cal.
 Class 3.
 3484—James R. Spencer, 508 W. Aluminum St., Butte, Mont.
 $3\frac{1}{4} \times 4\frac{1}{2}$ and 5x7, developing papers, of mountain views, street scenes, and motion pictures; for photos, mountain, seashore, and street scenes. Class 1.
 3485—Wilbur Davis, 1031 Van Juan St., Trinidad, Colo.
 Class 2.
 3486—Sidney D. Charles, Cordova, Alaska.
 Class 2.
 3487—Julien M. Esmay, 309 W. Mendenhall, Bozeman, Mont.
 Class 2.
 3488X—Dr. A. F. Bonney, Buckgrove, Iowa.
 Post cards and up to 5x7, developing and printing-out papers, of rural and original post cards; for aboriginal and archaeological. Class 1.
 3489X—C. M. Bach, Fort Winfield Scott, Cal.
 $3\frac{1}{4} \times 5\frac{1}{2}$, of general views; for the same, with

privilege to return those which I do not wish. Post cards and prints, prints preferred. Class 1.

- 3490—C. E. Bortner, M. D., 123 York St., Hanover, Pa.
 $3\frac{1}{4} \times 5\frac{1}{2}$, developing papers, of general views; for the same. Class 1.
 3491—Paul Vernon, Box 13, Wenona, Ill.
 4x5 and enlargements, developing papers, of landscapes, interiors, architectural photographs, and a few floral subjects; for artistic landscapes, marines, and floral photographs. Class 1.
 3492—Arcade Photograph & Supply Co., 110 W. Sup. St., Duluth, Minn.
 Class 3.
 3493—James F. Kudrle, Box 896, Sibley, Iowa.
 $3\frac{1}{4} \times 5\frac{1}{2}$, developing papers, of general views; for the same.

RENEWALS

- 2095—Gustav G. Stortz, 2424 Germantown Ave., Philadelphia, Pa.
 Miscellaneous view; for camp and swimming scenes. Class 1.
 2640—F. J. Soto, Gozus 6, Puebla, Pue., Mex
 Class 2.
 2659X—A. E. Willcutt, Swift River, Mass.
 Will exchange post cards with those doing good work; will exchange hand-tinted cards for the same. Class 1.
 2805—R. Vincent Solomon, P. O. Box 77, Wellington, New Zealand.
 $3\frac{1}{4} \times 5\frac{1}{2}$, $3\frac{1}{4} \times 4\frac{1}{4}$, and $6\frac{1}{4} \times 4\frac{1}{4}$, developing and printing-out papers, of landscapes, mountainous and general scenery, types, etc., in New Zealand and South Sea Islands; for prints (any size) of sailing ships, in dock, at anchor, or under sail, also flying machines; no other subjects. Class 1.
 3086—B. F. Atkin, Fort Riley, Kan.
 Any size wanted, developing papers, of nudes; for the same. Class 1.
 3124—C. R. Wentland, Robertsville, Ohio.
 4x5, post cards, or smaller, developing and printing-out papers, of views, landscapes, and farm scenes; for anything interesting, not personal. Prints or post cards. Class 1.
 3128—L. D. Pfouts, B. P. O. E. Bk., Eureka, Utah.
 $2\frac{1}{2} \times 4\frac{1}{2}$ to 5x7, developing papers, of portraits, buildings, groups, landscapes, etc.; for anything, good work only. Class 1.
 3139—R. E. Hulburt, R. F. D. No. 3, Albany, Ore.
 5x7 and 8x10, developing papers, of general subjects; for river scenes and views in general. Post cards and 5x7 views. Class 1.
 3146—E. C. Garner, M. D., Lock Box 22, Martinsville, Ohio.
 5x7 or smaller, developing papers, of general views, mostly landscapes; for the same. Prints or post cards. Class 1.
 3156—H. C. Haynes, R. F. D. No. 2, Laurel, Ore.
 Class 2.

CHANGES OF ADDRESS

- 1806—Robt. Ritchie, Box 728, Winnipeg, Man., Can.
 (Was Boissevain, Can.)
 2571—A. E. Lake, Balaton, Minn.
 (Was Burchard, Minn.)
 2698—Lemuel Barber, Burlington, Wash.
 (Was Dysart, Iowa.)
 2702—F. O. Steger, Tolono, Ill.
 (Was Decatur, Ill.)
 3075—W. H. Stannard, Bureau of Standards, Washington, D. C.
 (Was 1304 L St., N. W.)
 3336—Edgar O. Spaulding, Springville, Erie Co., N. Y.
 (Was Harrison, Maine.)

Paste, A Good.....	80	Business-like, Being	282
Photographs, Weather-Proof	129	Cameras, Those Foreign.....	375
Plate Tank, An Improvised.....	174	Chemically Pure	576
Portraits, Those New-Fangled.....	419	Copying Hint, A.....	137
Post Cards, Flattening	370	Durazol for Warm Blacks.....	183
Post Cards, Printing	371	Envelopes, Those Negative.....	481
Printing Post Cards.....	568	Exposures Without Jar, Short Time...	90
Prints by Candlelight, Making.....	225	Faded Prints, Restoring.....	379
Prints, Developing	569	False Standards, Some.....	575
Prints from Under-Timed Negatives, Another Way to Make.....	31	Films, Some Under-Exposed.....	530
Professional Hints	419	Firelight Effects, Fine.....	236
Pyro Stains	224	Fireproofing Fabric.....	331
Reading Glass, Using a.....	324	Flashlights, About Making.....	89
Red Bromide Prints.....	420	Fogged Spots, Removing.....	184
Retouching Easel, An Improvised.....	175	Ground-Glass, The Image on the.....	89
Retouching Portraits, When.....	81	Lens, A Symmetrical.....	39
Reviving Leather	274	Lenses, Using Spectacle.....	482
Reviving Leather	322	Lens Mount, Improvised.....	184
Ruby Lamp, A Gasless, Oilless.....	422	Limitations, Another Sort of.....	576
Sepia Tones, Sensitizer for.....	568	Limitations, Working Within One's....	576
Sepia Toning Method, Another.....	128	Manuals, Those Free.....	430
Simple But Important.....	472	Measuring Light	39
Stain, To Remove Excessive Pyro....	369	Mirror in Focusing, Using a.....	431
Stains, Reducer	419	Mounting Prints on Cloth.....	331
Stains, Reducer	569	Moving Picture Shows, The.....	529
Stains, Saving Time Developer.....	569	Negatives, Coarse Grained.....	379
Studio Practice	322	Negative, Paper Sticking to.....	236
Tank, Using a.....	567	Negatives, In Making Portrait.....	481
Temperature, An Even	419	Negatives, Reproduction of	183
Timing Prints	569	Negatives, Surface Deposits on.....	379
Title Prints, One Way to.....	372	Night Photography	183
Titling Negatives, A Wrinkle in.....	420	Night Photography, Flare Circles in...	236
Titling Negatives, Ink for.....	570	Picture Space, The.....	281
Tray Improvement, A.....	323	Plaque Mounting, Plaster of Paris....	235
Trays, Cleaning	522	Portraits, Making	137
Trays, Inexpensive	30	Printing on Silk and Other Fabrics...	138
Trays, Inexpensive Large	419	Rest That Would Be Appreciated, A...	431
Tripod, An Improvised.....	419	Scale, The Importance of.....	235
Unmounting Photographs	120	Sodas, Strength of.....	331
Vacuum Cleaner, Employ the.....	128	Solutions, Five Per Cent.....	331
Varnish, Cold	522	Solutions, Per Cent.....	184
Varnished Negatives, After Manipula- tion of	129	Stereoscopically Without a Stereoscope, Seeing	90
Vignetter, A Practical	271	Sulphite in the Developer	580
Waste, Saving the.....	175	Tank Developing, Time in	570
Weights, Emergency	522	Trays and Dishes, Cleaning	580
		Trays Clean, How to Keep a Tripod...	18
		Varnishing Prints	52
		Warning, A Timely	580
		Watch the Edges	579
		Wink, Duration of a	576

The Amateur and His Troubles

EDITED BY F. C. C. C. C. C.

Backgrounds, Some Improved	330
Back Numbers, A Tale of	130
Blue Print Cloth.....	430
Bromide Prints, Branded on Reds on	481

A Photographic Digest

EDITED BY H. D'ARCY POWER, M. D.

Air Pump, The Use of the	579
--------------------------------	-----

Alkalies on the Gelatine Film, Destructive Influence of the.....	573	Mounting by Hot Pressure, White of Egg for	280
Alkaline Gelatine, Physical Action of...	479	Mounting Prints Behind Glass.....	479
Alum or Formalin.....	86	Negatives, Spots and Pinholes in.....	425
Autochrome Plates, Hypersensitising..	429	Negatives, Thin Veiled	88
Autochrome, Black Spots on.....	88	Night Photography	179
Autochromes in Rendering Color Values, Limits of.....	527	Optical Glass	85
Autochromes, Shorter Exposure Time for	280	Pigment Printing, A New Way of Using Gelatine in	378
Blocking Out Skies.....	278	Plate, The Hydra(zene)	573
Bromide Printing, Control in.....	428	Plate, The New Hydra.....	375
Bromide Prints, Finishing of	182	Powder, Pumice	37
Bromide Prints, Single Solution Selenium Toning of.....	329	Printing, Gradation Control in.....	233
Bromide Prints, Sulphide Toning	528	Printing with Opaque Pigment, Combination	135
Bromide Toning, Troubles in.....	327	Prints, Discolored Platinum.....	280
Bromoil Bleach, A New.....	134	Prints for Publication.....	377
Bromoil Bleach, An Improved.....	478	Reducer, Modified Farmer's.....	526
Color Photography, A New Method of	277	Reductions, Local	136
Color Prints on Paper.....	35, 525	Reversing the Image, A New Method of	229
Color Work in Oil or Bromoil.....	475	Sound by Photography, Recording.....	88
Copying Paintings in Galleries.....	279	Stereograms, Direct Transposition of... ..	180
Daylight, Variability of.....	376	Stereoscopic Improvisation, A.....	181
Developer, A New Concentrated.....	179	Sulphide, A Substitute for.....	480
Development and Halation.....	429	Tones by Development of Gaslight Papers, Brown	280
Development, Intermittent	231	Toning, A New Method of Sulphide... ..	478
Diagrams and Line Drawings, Reproduction of	476	Toning Silver Prints with Some of the Rarer Metals	476
Drying of Plates and Stripping, Rapid	477	Washing Large Negatives.....	477
Enlarging, Chiffon in.....	37		
Exposure Meters, Paper for.....	478		
Filter Flare	378		
Geology. The Color Plate in.....	35		
Half-tone Reproduction, The Best Print for	526		
Hypo, Acid	528		
Image, The Nature of the Photographic	231		
Intensifier, A New.....	476		
Lantern Slide Binding for Lecturers...	134		
Lantern Slides in Dye Colors.....	132		
Lenses, Transmission of Light Through	528		
Lens Aperture, Importance of.....	229		
Line Drawings from Prints on Bromide or Printing-Out Paper.....	279		
Magnesium Ribbon, Portraiture with...	36		
Metals in Photography, The Rarer.....	427		

Our Book Shelves

Our Book Shelves.....	
.....	40, 94, 283, 334, 381, 434, 533

Club News and Notes

Club News and Notes.....	
.....	44, 188, 239, 382, 433, 485

International Photographic Association

International Photographic Association	42, 91, 139,
.....	185, 237, 284, 332, 383, 432, 483, 531, 577

Notes and Comment

Notes and Comment.....	45, 95, 143,
.....	189, 240, 287, 337, 385, 435, 486, 534, 579



NOTES AND COMMENT

A Department Devoted to the Interests of our Advertisers and Friends
In it will be found much that is new and of interest

Reported by William Wolff

A. D. Ramsey, formerly with the French Drug Company, of Tacoma, is now with the Defender Photo Supply Company in Los Angeles.

H. A. Taylor has opened a fine new Kodak store in San Diego. This is in addition to his popular store at Coronado.

C. A. Fanjoy, of Ocean Park, was burned out on September third last, when fire swept the business section of his town. He has opened again near the bath house.

The Los Angeles Camera Club gave a very fine slide exhibition during October. Those shown were mostly autochromes, the work of six local members, including those of F. W. Norman, of Pierce & Company.

The Merrich-Reynold Company, Los Angeles, moved into their new store November first. The new location is on Broadway, between Eighth and Ninth Streets, next to the Majestic Theater.

John O. Tucker, of San Jose, carried away a medal at the Sacramento State Fair for his excellent panoramic work.

Charles Seabolt, for years with the Bushnell Photo Company, is now with the Hartsook Studio, San Francisco.

Ray Winter, formerly with Woodard, Clark & Company, Portland, has bought the interest of Mr. McGill in the Multnomah Photo Supply Company and, with G. W. Percival, will conduct a general supply business.

H. G. Trout, of Salinas, has opened another studio in the same city, under the name of the "Miniature." Mr. Van Berklio has charge of the new place.

Daniel Freeman, of Pacific Grove, took the writer's advice and is changing the windows in his ground-floor studio.

C. C. Lord, the popular Kodak dealer of Long Beach, has just returned from a twelve hundred mile automobile trip. He was accompanied by Mr. Jarvis, another Kodak dealer, a member of the firm of Jarvis & Prinz, Pasadena.

The South London Exhibition

The Twenty-fifth Annual Exhibition of The South London Photographic Society will be held at The South London Art Gallery, Peckham Road, S. E., London, from Saturday, March first, to Tuesday, March twenty-fifth, 1913. The International Open Classes will consist of: (a) Pictorial Photography and (b) Autochromes, etc., sets of four; and Lantern Slides in sets of four. Two silver and six bronze medals will be awarded in the above classes at the discretion of the judge. In all the above classes, certificates will be awarded to all exhibitors whose work receives honorable mention. Entry forms and further information respecting the Exhibition may be obtained from the Hon. Secretary, Horace Wright, 180 Friern Road, East Dulwich, London, S. E., or from J. H. Perkins, Asst. Hon. Secretary, 103 Bushey Hill Road, Camberwell, S. E., London, England. British entries close Friday, February seventh, 1913. Foreign and Colonial entries close January twenty-fifth, 1913.

Abridged, the conditions of entry are as follows: Competitors must fill up the entry form supplied by the Society, and send in, accompanied by the proper remittance, to the Hon. Secretary, on or before Friday, February seventh, 1913. The fee payable by non-members in classes A and B is one shilling per picture or set of slides, with a minimum fee of two shillings. Foreign and Colonial work must be sent, carriage paid, to the Hon. Secretary, Horace Wright, 180 Friern Road, East Dulwich, London, S. E., England, on or before February eighth, 1913. Pictures from abroad must be sent mounted, but not framed. Those which may be accepted will be suitably framed at the expense of the Society. Exhibitors who are not members will receive a catalogue and an award list.

Dark Room Simplicity

A nice little booklet has just appeared on desk entitled "Practical Simplicity in the

Dark room." It enters into a discussion of the merits and characteristics of various developing and points out how the proper selection can be made to result in a simplification of dark room work. Helpful suggestions are given as to the fixing bath, bromide solution, and other dark room necessities. Methods of controlling the results in both negatives and prints are discussed and the working of glossy developing paper and bromide papers are touched upon, together with much other valuable advice. The booklet is one that will interest all of our readers, and we are advised that copies can be obtained free upon request by addressing Schering & Glatz of 150-152 Maiden Lane, New York.

Salon of Photographic Art

Organized at Ghent, on the occasion of the Ghent Universal and International Exhibition for 1913, the Association Belge De Photographie desires to bring this salon of artistic photography to the notice of all those practising photography. It will be installed, thanks to their efforts, in a fitting position situated between the Salon of Fine Arts and that of the Decorative Arts, where it will necessarily be visited by all visitors to the Exhibition. For the first time in the history of photography, it will be treated on the same footing as fine arts in general; the efforts of the committee having resulted in a place worthy of our art being put at our disposal free of charge.

Rules of the Salon and the necessary papers to be filled in with regard to the sending of your works, preparing of the catalogue, etc., will be gladly sent to any of our readers by the General Secretary, P. Limbosch, 3 Place Royale, Brussels, Belgium.

A Christmas Suggestion

Among the friends you will remember at Christmas time are those who have shared the outings on which your kodak has played an important part. You can make attractive little gifts to these friends by making prints from your summer negatives on kodak velvet green paper, and mounting them attractively, or by making velox prints and coloring them with velox water color stamps. Such gifts always have the element of personal interest that is appreciated.

For the amateur who has only his even-

ings to devote to photography, the making of enlargements has been a problem which could only be solved at a considerable expense, and as a consequence, many have been denied the pleasure of this most interesting work. The Eastman Kodak Company did much to simplify enlarging by daylight, with their Brownie Enlarging Camera, but the illuminator for use with this camera makes bromide enlarging another of the pleasures for this amateur's long winter evenings. The Brownie Enlarging Camera Illuminator may be used with the enlarging camera, or it will furnish sufficient light for making bromide enlargements of greater dimensions with a camera and improvised enlarging easel. A post card to the Eastman Kodak Company, Rochester, New York, will bring you the latest edition of their valuable booklet, "Bromide Enlarging With a Kodak."

Course In Photography

A course in Photography, to be known as the Science and Art of Photography, is to be established in the College of Fine Arts by a prominent alumnus of the University.

An authority in this work, a member of the Royal Photographic Society of England and the American Chemical Society of America, who is also an author of several works upon the different phases of photography, has been chosen for the head of the course.

It is intended to make this instruction the equal of the schools in London, Berlin, Vienna and Munich. This will be the first school of such grade in this country. The general plan of the course is to extend through two years. The new course receives the hearty approval and co-operation of George Eastman of the Eastman Kodak Company, and of H. O. Bodine of the Wollensak Optical Company, and the enthusiastic support of Dean Parker and Professor Jeannette Scott; Mr. Eastman contributing some valuable cameras and apparatus, and the Wollensak Company some fine lenses.

In a communication to the press, Professor Jeannette Scott says:

"The manifold applications of photography in ordinary commercial work, its increasing with use in other sciences and the

NOTES AND COMMENT

obvious lack of organized and competent instruction in the science and art have led the University to found a photographic class. It is interesting to note that while America leads the van in the commercial production of photographic material, it lags far behind the European nations in the theoretical department in that we have no schools that can be compared with those of Vienna, Berlin, Munich and London. Isolated and desultory photochemical investigations have been carried out in the states, but we have to look to Europe for almost every serious contribution to the theory of photographic processes. It is hoped that the instruction given in the proposed class will assist in removing this deserved reproach and enable American investigators to take the same high rank in theory that American photographic manufacturers have in the commercial world.

"The instruction will include a complete exposition of the theory of light and optics as applied to the construction and use of photographic lenses and the practical application of the latter and the camera to general and specialized work. The theoretical principles of the manufacture of sensitive surfaces, both for negative and positive work and their application in practice, including the preparation of lantern slides and the use of the optical lantern would follow. Especial attention would be paid to the question of color, its formation and rendering in correct luminosity in monochrome and in all methods of photography in natural colors.

"Students who have taken the regular course may specialize in particular branches such as positive and negative emulsion making, photomicrography, photospectroscopy, motion picture making, etc

"Syracuse University being the first to establish a College of Fine Arts, it is entirely fitting that it should take the lead in recognizing the importance of photography in its relation to the Arts and Sciences and include it as a branch of College work, and as a legitimate extension of the Painting Department. The course in Photography will be eminently practical and will at the same time give adequate theoretical explanations of every process. In addition to this, there will be classes in drawing for the study of line, composition, light and shade, color and

that general knowledge of form without which the highest artistic expression is impossible. It is the purpose of the course not only to be of value to the students from the artistic side, but also to stimulate research and original investigation along scientific lines."

With the Camera

Mr. Carl Fischer, student of 1906, has just written us from Bavaria, Germany, where he is spending his summer vacation. He is studying for grand opera at Berlin, and we expect to hear of him, in the near future, as one of the world's great tenors.

The Bissell Archery Club received a cordial invitation to send representatives to the National Archery Tournament at Cambridge, Massachusetts, last month. However, no one attended from the college.

Miss Clara Hardt and Stephen Mondoc, who finished the photographic course last month, graduated into matrimony at Charleston, Illinois, on their way home.

Miss Virginia Larimer, of Greenville, Ohio, student of 1907, made the college a pleasant visit of a few days last month.

Russell Hamilton, of 1907, and Charles Baughman, of 1911, have returned to the college for further studies.

Professor Scott and Secretary Rinehart have returned from their summer vacations, which they spent in Indiana and Michigan.

The first and second prizes for portrait work at the College last month were awarded, by popular vote, to Miss Madelin Gavin and A. L. Reis.

Professional Photography Progressing

Professional photography has developed possibly as much as any other profession in the past few years. This has been a direct result of education. In another column of this issue appears the advertisement of a special post graduate course for professional photographers to be given by "Daddy" Lively at his school in Tennessee during the entire month of March.

We find among the subjects to be treated during this course several that will appeal to all photographers and a prospectus should be applied for and reservation secured at once, as we notice that the enrollment is to be limited.

Learn what we learn of post post graduate terms of this kind given by "Daddy" Lively.

we know the one in March will be a greater success and any photographer attending will be more than repaid for the time and expense incurred. The fact that unanimous satisfaction has been given students who have attended former special as well as regular terms in the Southern School of Photography enables us to recommend this school without hesitancy.

Get out of the ruts. Combine other men's ideas with your own. Create new ideas. Receive inspiration. Elevate yourself and the profession by becoming more efficient. Efficiency is the foundation of success.

Platora Professional Paper

The fellow who is satisfied to continue right along in the same rut, day after day, who is not willing to experiment and try new and approved processes, can never expect to reach the top in the photographic profession. And the self-satisfied one will never raise his cash receipts beyond the present figure. The wide-awake fellow is willing to do a little investigating, and when he gets hold of something better he profits by his experiment. "Platora" is a professional portrait paper of exceptional quality. You can get free samples by merely writing to the Photo Products Company, Dept. E, 6100 La Salle Street, Chicago, Illinois.

In New Quarters

It gives us great pleasure to announce to our readers that the Ernon Camera Shop, Max Meyer, proprietor, has moved into larger and more comfortable quarters at its old address, where it will be pleased to show its extensive line of the unsurpassed Ernmann Cameras and Cinematographic Apparatus. A new handsome catalogue is in preparation, and will be ready for the Christmas trade.

Roylon Advantages

We have recently had the pleasure of trying Roylon as a developer to be used in connection with hydroquinone for some prints on developing paper. We did this for the benefit of a friend, a busy professional, and one of those unfortunate individuals who are more or less affected by some developers that have an irritating effect upon their hands. Upon showing him the prints made as a result of our trial, he immediately ordered some Roylon for his own use. The makers, the Eastman Kodak Company, believe they have overcome the difficulty confronting those

workers whose hands are prone to trouble from developing solutions. Used in connection with hydroquinone, Roylon gave us very fine prints of full gradation and most pleasing tone and brilliancy. Even if one is not troubled in the manner mentioned above, this excellent new developer should be given a trial.

An Exposure Meter of Merit

We have recently had the pleasure of trying out one of the Heyde Exposure Meters, obtained through a dealer from the Herbert & Huesgen Company, sole agents. This meter, a meter especially imported for the amateur who desires above all things correct exposure, is constructed on an entirely different principle from most exposure meters. As its American sponsors, the Herbert & Huesgen Company, claim the length of time, from one minute to an hour, depending upon the density of the shadows, required to tint the sensitive paper in most exposure meters, is entirely eliminated; as, with the Heyde Meter, the correct exposure time is taken by means of a blue glass prism, and the operation consumes hardly a minute, even for the densest shadows. We found it a most satisfactory and dependable instrument, one that required but a moment's time to use, and one that left practically nothing to be desired. The importers further claim that it is entirely unaffected by weather conditions and that the saving of money heretofore wasted in spoiled plates and films will more than pay for the meter.

Kruxo Sepias In First Development

Photographers interested in sepia tones should investigate the process used for obtaining sepias in first development on Kruxo paper and cards made by the Kilborn Photo Paper Company, Cedar Rapids, Iowa. The instructions are simple, easy to follow, and judging from some prints we recently saw turned out by a local photographer, the results would prove highly interesting to many photographers who are not producing the sort of sepia prints they would like to turn out. Incidentally we might mention that some of these sepia prints we saw were made on the new grade of Kruxo paper called "extra hard." This paper gives wonderful results when used for weak, thin negatives. One should get some of this paper and try it on negatives so thin that they do not give good prints on the ordinary papers.

